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Forest Management Plan for Angulo, Kuhl and Fox Property

The following is a forest management plan for a portion of Section 16 and a small portion of Section 21 T12N R14E MDM. The El Dorado county assessor's Parcel Numbers are 011-030-45 and 46. This 214.17 acre ownership is located on the west slope of the Sierra Nevada, approximately 24 air miles northeast of Placerville, CA. Topographic map coverage is provided by the Robbs Peak, Calif. 7.5' Quadrangle. The elevation of the property ranges from approximately 4,880 feet to 5,080 feet. Soils in the area are mostly Pilliken coarse sandy loam with areas of Aquepts and Umbrepts. Pilliken soils are deep and well drained, formed from material weathered from granitic rock. This soil is moderate to high site quality. This soil is used mainly for timber production and also for summer range. The Aquepts and Umbrepts are very poor to poorly drained soils that formed in alluvial material located on broad valley flats and along drainages and the periphery of these areas. The Sedge-Rush series typically occurs on these soils, along with willows, alders and other riparian vegetation. These areas are well suited for intensive use as summer range. The property is located in the Union Valley Reservoir Watershed, Calwater ID v2.2 #5514.340301. There are two main watercourses that are tributaries to Union Valley reservoir. These watercourses are unnamed on the Robbs Peak 7.5' Quadrangle Map. The watercourse flowing through the Angulo parcel is named Jack's Creek by the family since it flows through Jack's Meadow and the watercourse flowing through the Fox and Kuhl parcel called Timothy Creek since it flows through Timothy Meadow.

Ownership History: Rufus and Sarah Swift purchased the full ranch on 1/7/1941. That interest passed to their heirs in an 11/21/1994 grant deed. The Angulo Dynasty Trust received their interest on 12/27/1995. The Phyllis Swift Fox Family Revocable Trust received theirs on 6/13/1995. Michael Kuhl received a 1/3 interest on 12/28/1994, and a 2/3 interest on 2/22/2005.

Timberland Preserve Zone (TPZ) Chapter 17.44.070 (Prior Code 9432) requires a plan for forest management to include a discussion and recommendations on at least the following items:

1. Commercial harvesting, a history of past operations and recommendations for the future.

The property being discussed in this report and the surrounding property has a long history of timber harvesting as well as homesteading and ranching dating back to the 1800's. The majority of the land in the immediate vicinity of the subject property is currently managed for timber production by Sierra Pacific Industries and the U.S. Forest Service for multiple use as well as smaller parcels which have been harvested for timber under approved Timber Harvest Plans approved by the California Department of Forestry and Fire Protection. Land owned and managed for timber production by Sierra Pacific Industries was once owned and managed by

Michigan-California Lumber Company from the late 1800's to the mid 1990's. Michigan-Cal exercised their timber rights on subject property in 1958. Family members remember Rufus and Sarah Swift harvesting more timber, sometime during the 1960s, but remember no details. The most recent timber harvests were in 1994 on the Fox portion and extending through 1997 for the Kuhl and Angulo portion. The Fox portion was harvested under THP #4-94-56 and the Kuhl/Angulo portion under THP #4-94-107/ELD-45. There has been no harvesting since then. A salvage operation was considered in 2008, when the bottom dropped out of the log market. Of the 214 acres, approximately 47 acres are in meadow/grassland. The remaining land is mixed conifer, site class I and II, with White Fir the predominate species. Current growth is estimated to be 600 to 800 bd. ft./acre/yr. This could potentially be improved to 1,000 to 1,200 bd. ft./acre/yr following a series of growth improvement harvest and achieving fully stocked stands.

Recommendations: Until an economically feasible log market returns, it is recommended that the landowners work with a portable sawmill owner-operator to salvage dead and dying trees before they become unmerchantable and either a safety hazard or become large fuel material. The rough lumber can be marketed through the internet or classified ads.
When the market rebounds, a commercial timber harvest including removal of recently dead, dying and diseased trees should be done every 20 to 25 years on the property. It should also include a light selection harvest of green trees of all ages, sizes and species to create a multiple aged stand consisting of mixture of species which can maximize the growth potential on the property. The residual trees in the mixed conifer stand should be left at 15 to 25 foot spacing depending on the age and size. Older snags that do not pose a safety hazard to the landowners or the improvements should be left for wildlife purposes, as they provide habitat for birds and cavity nesting animals. Intermediate harvests to remove dead dying or diseased trees should be done as needed.
The elevation of the property is ideal for white firs which can be grown and sold for Christmas trees. Existing White Fir thickets can be thinned and pruned with Christmas tree sales in mind. Fast growing well spaced trees can be retained for future timber crop trees where managing for Christmas trees.
The meadow/grasslands should not be planted to trees as they provide habitat for a diversity of wildlife species and acts as a filter buffer for water runoff retaining a high level of water quality. Small conifer trees encroaching on the meadows/grassland areas can be removed by weed eating or hand pulling. Advanced regeneration can be cut and piled for wildlife habitat.

2. Provisions for legal and physical access to the property so commercial operations can be carried out.

Physical access to the property is east from Placerville on Highway 50 to Ice House road, a surfaced county/SMUD/USFS maintained road. Ice House Road is approximately 8.4 miles east of the Sly Park Road exit at Pollock Pines. The route continues northeast up Ice House Road approximately 19 miles to Union Valley Road, formerly known as Wolfe Creek Road. Union Valley Road is a co-op road between Sierra Pacific Industries and the U.S. Forest Service heading in a westerly direction that is surfaced for approximately 0.7 miles, then rock and native surface road for approximately 1.4 miles. The route continues on road 12N30 approximately 0.2 miles to the northeast corner of the Kuhl property or on an unnamed road approximately 0.3 miles to the northeast corner of the Fox property.

Commercial use of Union Valley Road and the short spur roads require a road use permit from the U.S. Forest Service. The application for the permit should be submitted to the Pacific Ranger District of the El Dorado National Forest for their review and recommendations before it is passed along to the El Dorado National Forest Supervisors Office.

3. A reasonable attempt to locate the boundaries of the property and attempts to protect his property against trespass.

Landowner Michael Kuhl and RPF have located all survey monuments required to run boundary lines. The most recent check of the survey monuments surrounding the property was done in the fall of 2008. The boundary lines of the property have been identified at one time or another for previous harvest operations, including interior lines separating the three proposed parcels. The portion of the property boarding U.S. Forest Service managed land has been blazed with the blaze marks painted red, excluding the 200 foot strip of U.S. Forest Service managed land between the high water mark for Union Valley Reservoir and subject property. The survey corners that delineate the 200 foot buffer strip for Union Valley Reservoir have been flagged and are generally close enough to be seen from one to the next. The landowners have attempted to hide these survey monuments to prevent vandalism from lake users.

The two access roads are gated with fences extending to the sides to reduce access to Off Road Vehicles. U.S. Forest Service padlocks are used in addition to private locks in case emergency access is required. There are fences on three portions of the property. The oldest is the fence along two points of the northern edge of the Fox parcel. Next is a fence along much of the western most edge of the Angulo parcel. And then there is the fence started this summer along the western edge of the Angulo and Kuhl boundary of the lower meadow.

Besides the gates and fences that block illegal access to the property by vehicles, frequent visits to the property by the landowners and selected guests attempt to protect the property against trespass.

Private Property and No Trespassing signs have been posted near the gates. It is recommended to provide more signage to inform the public that this is private property. The use of signs is allowed for under chapter 17.44.030 J and K.

4. Disease and insect control work.

The property was surveyed for possible insect or disease problems during the summers of 2008 and 2009. No serious outbreaks were observed but some mortality was observed mostly in the White fir component. Bark beetles have killed some trees in the stand. To minimize the potential for tree loss, diseased trees and the weakest trees should be removed during timber harvest operations, and adequate tree spacing will minimize the competition for light, water and nutrients. There is a small amount of dwarf mistletoe in some of the pines and firs on the property. It does not occur in large enough concentrations to cause major problems but should be removed from the stand to minimize its spread during commercial timber harvest operations. An attempt to harvest the mortality was made in 2008, but the cost of road maintenance and logging costs prevented harvesting because of the lack of markets for the logs. The use of a portable sawmill to process this material is being considered if a market can be found for the lumber.

5. Thinning, slash disposal, pruning and other appropriate silvicultural work.

Thinning: Periodic thinning of seedling and sapling size trees should be done to promote the most rapid growth on the healthiest trees. Larger trees will be thinned during the commercial harvest, and future thinning should be timed with commercial harvest in order to get an economical return on those trees large enough to be merchantable.

Slash disposal: In areas of recreational use by the landowners and guests and near roads, slash and forest debris can be unsightly, hazardous and be a fire hazard. Annual maintenance will prevent the buildup of forest debris in high use areas. Any future THPs should include provisions for slash treatment. Logging slash can be piled and burned or physically moved to areas away from high use areas and used for erosion control. Logging slash spread out on skid trails or other areas of exposed soil can reduce erosion by reducing raindrop impact on granitic soils and by catching sediment that may be transported across the soil surface.

Pruning: Pruning for log quality is not appropriate for this timber stand and with the current economy would not be justified. Pruning is appropriate in the high use areas and along roads to improve aesthesis and to create a break in forest fuels for fire hazard reduction.

6. A fire protection plan including a fuels management program.

Purpose: to reduce the potential of wildfires starting on the property and to slow the rate of spread in case of a wildfire.

To reduce the potential of a wildfire, the landowners shall comply with all California Department of Forestry and Fire Protection and U.S. Forest Service fire rules and regulations and implement a fuels management plan. A fuels management plan to reduce fuels will also assist fire suppression efforts by slowing the rate of spread of a wildfire. Establishing a fire reporting system will also assist local fire authorities by improving reaction time.

Forest fuels management:

Ground fuels consist of natural limb pruning and needle cast, trees dying and falling over, logging slash and ground cover vegetation and brush. Ground fuels should be treated within 100 feet of roads and 150 feet of high use areas. Treatment could include removal, pile and burn or chip and scatter. During timber harvest operations, trees should be felled away from roads and high use areas. Logging slash should be removed from all areas within 100 feet of the edge of roads and 150 feet from high use areas and structures. This slash can be piled and burned or moved to areas away from the roads and high use areas. Treatment of logging slash should be discussed in harvest documents as part of hazard reduction.

Ladder fuels are smaller trees and lower dead and live limbs on larger trees which can provide a ladder for fire to climb from the ground to the crowns of trees. Ladder fuels can be reduced by limbing up the larger trees for 10 feet above the ground, but no more than 50% of the live crown for trees less than 20 feet in height. Small trees growing in the understory should be thinned so the spacing is such that the crowns do not touch and also leaving room for the residual tree crowns to grow without touching for a period of 5 to 10 years.

Crown fuels are the canopies of trees which can carry a fire in high winds and low moisture conditions. It usually occurs where there is a continuous layer of limbs and needles in interlocking tree crowns. Prevention of crown fires can be done by spacing out the larger trees so there is a minimum of 15 feet between crowns and removal of ladder fuels. The spacing of larger trees should be done by the RPF while marking harvest trees in preparation of a commercial logging operation.

Fuel breaks are gaps in the forest fuels where a fire can be stopped. The dirt roads and high use areas within the property that have been treated for fuel reduction as discussed above and the wet meadows provide adequate fuel breaks for this property.
Water sources for firefighting: The closest source for large trucks is a constructed water hole used for dust abatement during commercial harvesting operations. This water hole is located along Union Valley Road approximately 1.5 miles from the north side of the property. When Union Valley Reservoir is full, water trucks could draft from the reservoir in emergency situations. Union Valley Reservoir would also be the source of water for helicopter equipped with buckets. Water from the watercourse flowing along the eastern portion of the property has been diverted by a man made ditch to provide domestic water to all three parcels. This ditch feeds two 600 gallon water tanks on the Fox parcel and a 525 gallon water tank on the Kuhl parcel located near the high use areas. A 2,500 gallon water tank is planned to be functioning sometime during the summer of 2010 for the Kuhl parcel.
A water system has been developed at the high use areas and can be used for initial response to small fires. Fire reporting system: With the popularity of cell phones and the increase of coverage in remote areas, emergency phone numbers should be posted at the high use areas and on any structures. Guest visiting the property should be made aware of these numbers when first arriving.
Emergency vehicle access: U.S. Forest Service padlocks should remain on all gates providing access to the property. All roads within the property shall remain open and wide enough for fire trucks with occasional wide areas for turning around.

7. Erosion control on existing roads and skid trails and maintenance of existing roads.

Union Valley Road and the short spur roads from Union Valley Road to the property are under the control of the U.S. Forest Service.
The native surface roads within the property are located on flat or gentle slopes and had erosion control structures constructed following the most recent harvest. Landowners should conduct periodic inspections and maintain and repair any damage to the existing erosion control structures on the roads to insure proper drainage by cleaning out the throats of all water bars and drainage areas and make sure runoff is onto non erodible material or into native vegetation for filtration before entering a watercourse. Skid trails were water barred according to the Timber Harvest Plan specifications and Forest Practice Regulations following the last harvest and the trails have stabilized since then with native vegetation and forest litter.
Requirements for erosion control on skid trails and roads following future timber harvests will be specified in the harvest documents. Following the Forest Practice Regulations for any future timber harvest swill reduce to insignificant any impacts to soil or sediment movement.
Existing road crossings of watercourses have permanent culverts in place. These culverts have withstood 100+ year storm events. These culverts should be inspected and maintained to function properly each spring and fall and following any major storm event during the summer.
If equipment is used on the property in projects not related to timber harvesting, they should not be operated within 25 feet of seasonal watercourses, within the wet meadow area or within 75 feet of the class I watercourses. Where watercourses are crossed by equipment, and there is a potential for soil to be washed into the watercourses, exposed soils should be protected from erosion by spreading clean straw or forest litter on the soil surface to a depth of two inches.

8. Planting of a significant portion of the under stocked areas of the land.

The under stocked portions of this property are meadows and grassland and should be managed to remain meadows and grassland.

The timbered portion of the property is adequately stocked with mixed conifers. Small opening created by natural events or by harvesting insect and disease trees will fill in by local seed fall. Logging operations usually expose soft soils which create good seed beds for natural regeneration.

9. Structures

There is currently one structure on the Kuhl parcel. Chapter 17.44.050 allows for one owner or caretaker occupied single-family detached dwelling or a mobile home on an approved foundation. It is recommended that out buildings be constructed on the three parcels for the storage of equipment necessary for the management of the property as well as fire fighting tools and equipment.

Maps:

Exhibit A: Ownership map with roads prepared by James Nicklos, April 1994
Timber Type Map prepared by James Nicklos, March 1991
Aerial Photograph, July 1986

Management plan prepared by: **Robert W. Allen, RPF #2108**
December 2, 2009

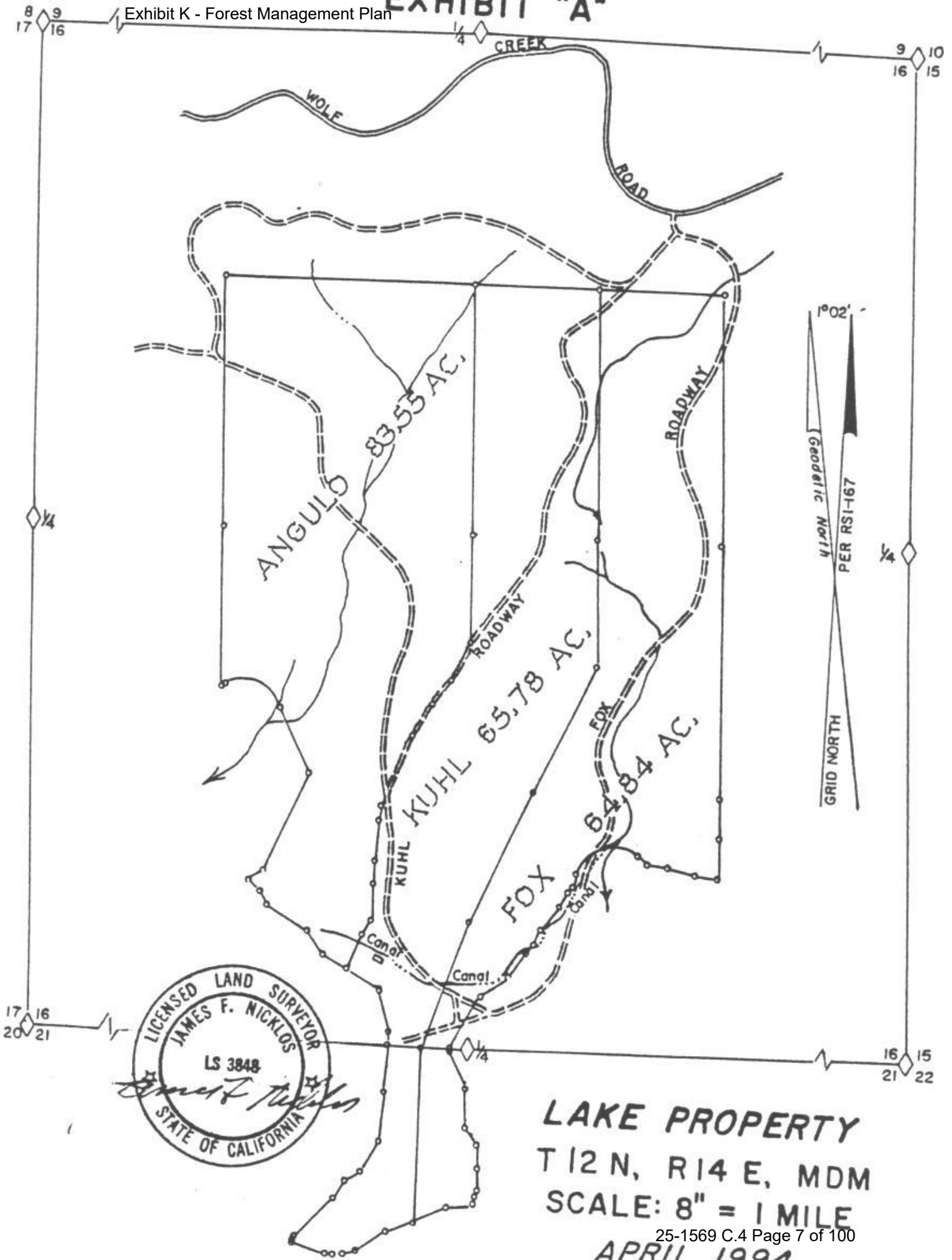
I have read and agree with the above Forest Management Plan

Penny Hocking
Penny Hocking

Michael J. Kuhl

Tony Angulo

EXHIBIT "A"



LAKE PROPERTY

T 12 N, R 14 E, MDM

SCALE: 8" = 1 MILE

APRIL 1994

SWIFT PROPERTY

T 12 N, R 14 E, MDM
El Dorado County, California

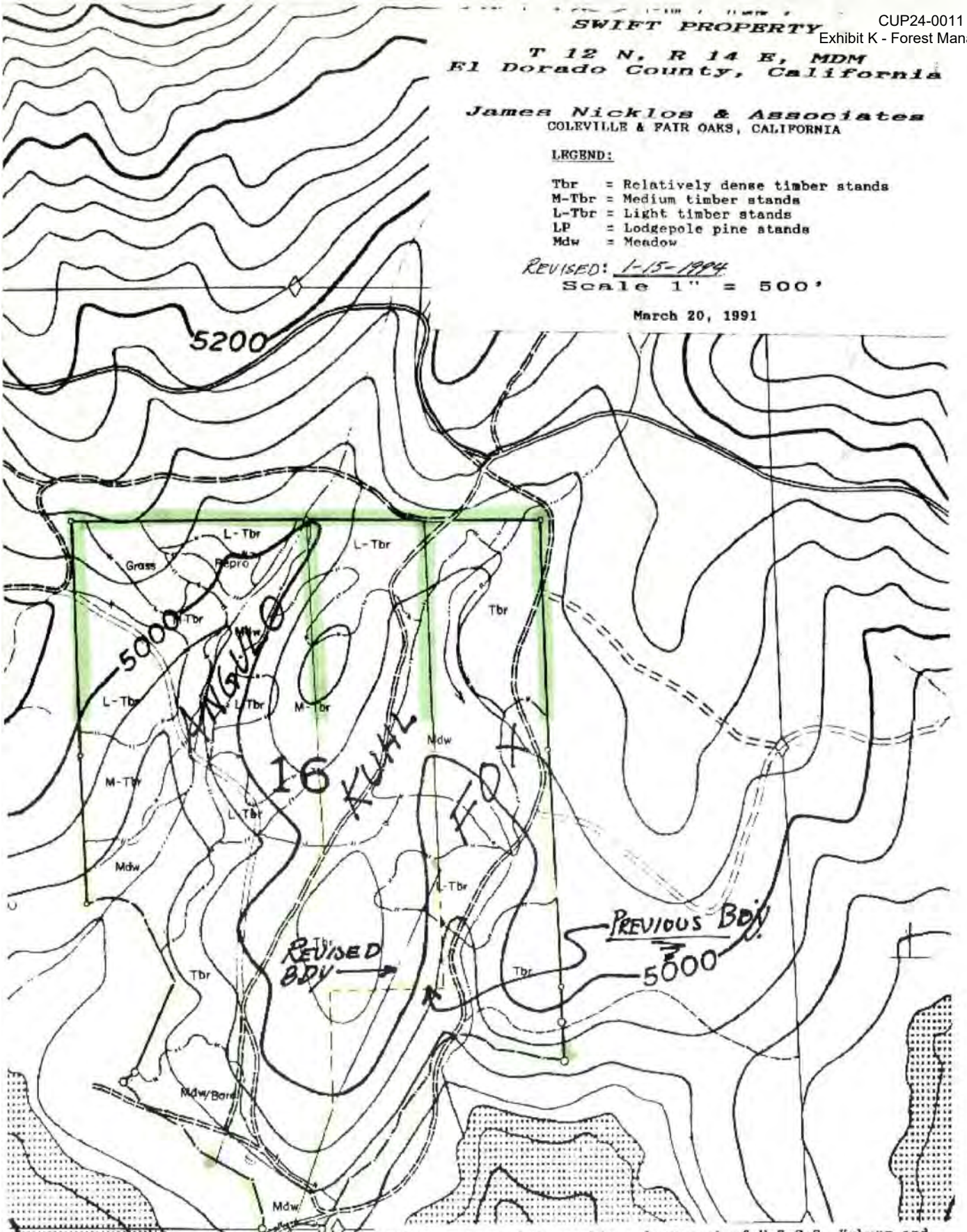
James Nicklos & Associates
COLEVILLE & FAIR OAKS, CALIFORNIA

LEGEND:

Tbr = Relatively dense timber stands
M-Tbr = Medium timber stands
L-Tbr = Light timber stands
LP = Lodgepole pine stands
Mdw = Meadow

REVISED: 1-15-1994
Scale 1" = 500'

March 20, 1991



MAP base is a photographic enlargement of U.S.G.S. Kyburz and Robbs Peak 7.5' quadrangles. Detail was transferred from 1986 aerial photos with a K.E.K. plotter and Kail reflecting projector. Land grid and ownership boundaries were developed from Record of Surveys filed in El Dorado County Official Records: 1RS166, 1RS167, 1RS171, 2RS141, 3RS144, 3RS155, 10RS85, and 13RS53.


7-3-86
USDA-F
12
615030
686- 62

Fred Buhlert
Registered Professional Forester #2536
1680 Quarry Road
Placerville CA 95667
530-409-9149

May 16, 2025

RE: Conditional Use Permit #24-0011 Kuhl ~ Parcel #011-030-055 & #011-030-058

To Whom It May Concern:

In 2012, myself and an associate prepared the Timber Harvest Plan #4-12-020-ELD on the parcels referenced above where the Conditional Use Permit #24-011-Kuhl is proposed. I was involved in and had direct oversight of the logging of these parcels in 2014 and 2017. Due to these timber harvests, I am very familiar with this timberland and can definitely certify that the proposed project complies with the EDC General Plan 8.4.2.1 (A.) "The proposed use will not be detrimental to that parcel or to adjacent parcels for long-term forest resource production value or conflict with forest resource production in that general area." The proposed project is also compatible with the El Dorado County Zoning Ordinance Sec. 130.40.350 Timber Production Zone, and will not detract from this land's ability to produce timber.

I have continued to do annual inspections of this timberland to assess the health of the timber stand, and I have maintained contact with the landowner, Michael Kuhl.

Fred Buhlert
RPF #2536

BIOLOGICAL REPORT
KUHL RESIDENTIAL STRUCTURE CONSTRUCTION PROJECT

Prepared by:

Sierra Ecosystem Associates

1024 Simon Drive, Suite H
Placerville, CA 95667

For:

Michael Kuhl
APN: 011-030-058, 011-030-055

DRAFT REPORT

JULY 31, 2024

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1.0 PROJECT DESCRIPTION

The residential structure construction Project (Project) involves building a proposed residential structure, septic area, fire hydrant, a turnout, and solar arrays. The property already has an existing shed, driveway, well, water tank, and roads. The Project area is shown in Figure 1.

1.1 Project Setting

The Project is located on the north shore of Union Valley Reservoir at approximately 5,000 feet elevation. The Project area consists of mostly upland mixed conifer with a meadow to the west and a meadow on the eastern boundary 2,000 feet to the north of the proposed construction site. The meadows are fed by snowmelt in the spring and groundwater throughout the summer and fall and flow into Union Valley Reservoir. The overstory consists of fir and pine species with a mix of incense cedar, black oak, and Douglas fir. A complete species list is shown in Appendix B.

Figure 1. Residential Project Site

2.0 METHODOLOGY

Development of this biological report involved: 1) a desktop evaluation, and 2) a field survey. The methodology for each is described below.

2.1 Desktop Research

Prior to the site visit, preparatory desktop research work was completed using Site Plans and parcel boundaries provided by El Dorado County and high-resolution imagery (dated June 2024). A review of current databases maintained by CDFW was also performed to identify special-status species that could occur on the Project site (CDFW 2024). The CNDDB search covered a 5-mile radius around the Project site and is shown in Figure 2. Table 1 summarizes the species identified in this focused query.

Figure 2. CNDDB Search

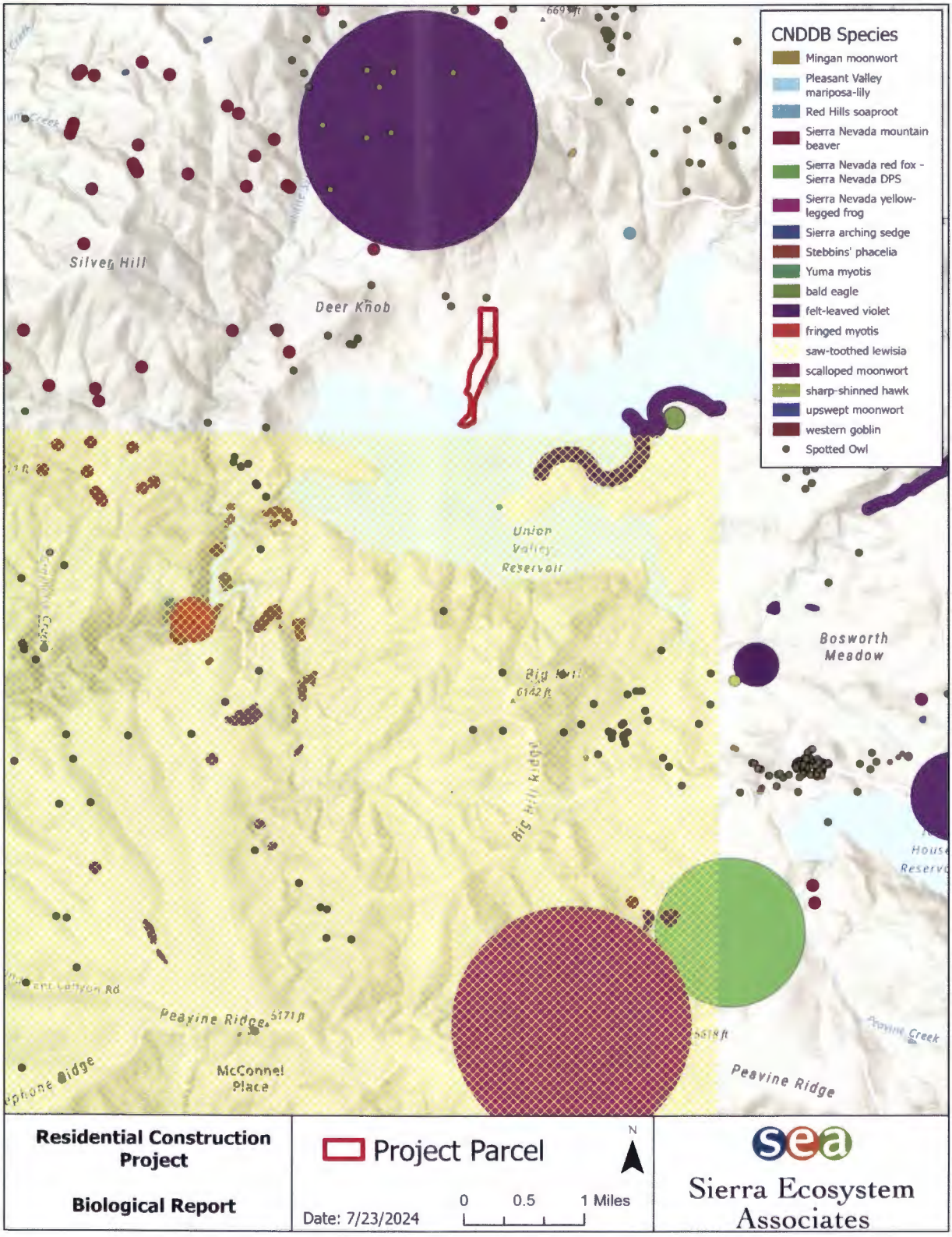


Table 1. CNDDB Species

Common Name	Scientific Name	Federal Listing	California Listing	Rare Plant Rank	CDFW Status
bald eagle	*Haliaeetus leucocephalus*	Delisted	Endangered		
Sierra Nevada yellow-legged frog	*Rana sierrae*	Endangered	Threatened		Watchlist species
Sierra Nevada mountain beaver	*Aplodontia rufa californica*	None	None		Species of special concern
Mingian moonwort	*Botrychium minganense*	None	None	4.2	
Pleasant Valley Mariposa lily	*Calochortus clavatus var. avius*	None	None	1B.2	
Red hills soaproot	*Chlorogalum grandiflorum*	None	None	1B.2	
Sierra Nevada Red Fox	*Vulpes vulpes necator pop. 2*	Endangered	Threatened		
Sierra arching sedge	*Carex cyrtostachya*	None	None	1B.2	
Stebbins phacelia	*Phacelia stebbinsii*	None	None	1B.2	
Yuma myotis	*Myotis yumanensis*	None	None		
Felt leaved violet	*Viola tomentosa*	None	None	4.2	
Saw toothed lewisa	*Lewisia serrata*	None	None	1B.1	
Scalloped moonwort	*Botrychium crenulatum*	None	None	2B.2	
Upswept moonwort	*Botrychium ascendens*	None	None	2B.3	
Western goblin	*Botrychium montanum*	None	None	2B.1	
Spotted owl	*Strix occidentalis*	None	None		
Fringed myotis	*Myotis thysanodes*	None	None		
sharp-shinned hawk	*Accipiter striatus*	None	None		Watchlist species

2.2 Pedestrian Field Survey

Sierra Ecosystem Associates, Inc. (SEA) staff Senior Ecologist, Jeremy Waites, Environmental Scientist Summer Abel, and Assistant Environmental Scientist Aria Pauling completed a pedestrian field survey on June 20, 2024 and June 21, 2024. The survey consisted of a floristic botanical survey, nesting raptor and migratory bird survey, and habitat analysis of the Project site. The focus of the survey was to analyze habitat characteristics and to assess if any threatened, endangered, or special status (TES) plants or animals would be affected by Project activities. The Project area including the proposed building location was surveyed and all plant and animal species observed were recorded. Pictures were taken of plant occurrences as well as the overview of the site and are included in Appendix A. A wetland delineation was also completed to map the existing wetlands within or near the Project site.

3.0 RESULTS BASED ON DESKTOP EVALUATION AND SURVEY

The following sections describe the information that was gathered from the desktop searches and the June 2024 field survey. These sections also provide details on Project impacts and the specific habitat characteristics for potential TES species that are present in the vicinity of the Project site. TES species, which are listed in Table 1, are plants and animals that historically occur in the surrounding area and those with potential habitat.

3.1 Wetland Features

The wetland and hydrological features from the National Wetland Inventory and the National Hydrology Dataset (USFWS 2024) are shown in Figure 3. Overland flow is generally from north to south. Two streams (ST-1, ST-2) shown in Figure 3 are on either side of the Project. Both flow through meadows and empty into Union Valley Reservoir.

Following completion of the field assessment, delineated features of the wetland differ from those defined by the NWI. NWI wetland data is presented in Figure 4. Specifically, based on the field survey data, the wetlands extend farther and the most southern wetland (W-1) is more complex. W-1 has many wetland plant species, but trends to more upland invasive plant species in the later drier season. The NWI dataset classifies the wetlands within the study area as: Emergent Wetland but also contains Forested Shrub Wetland and Riverine.

Figure 3. Wetlands and Hydrology

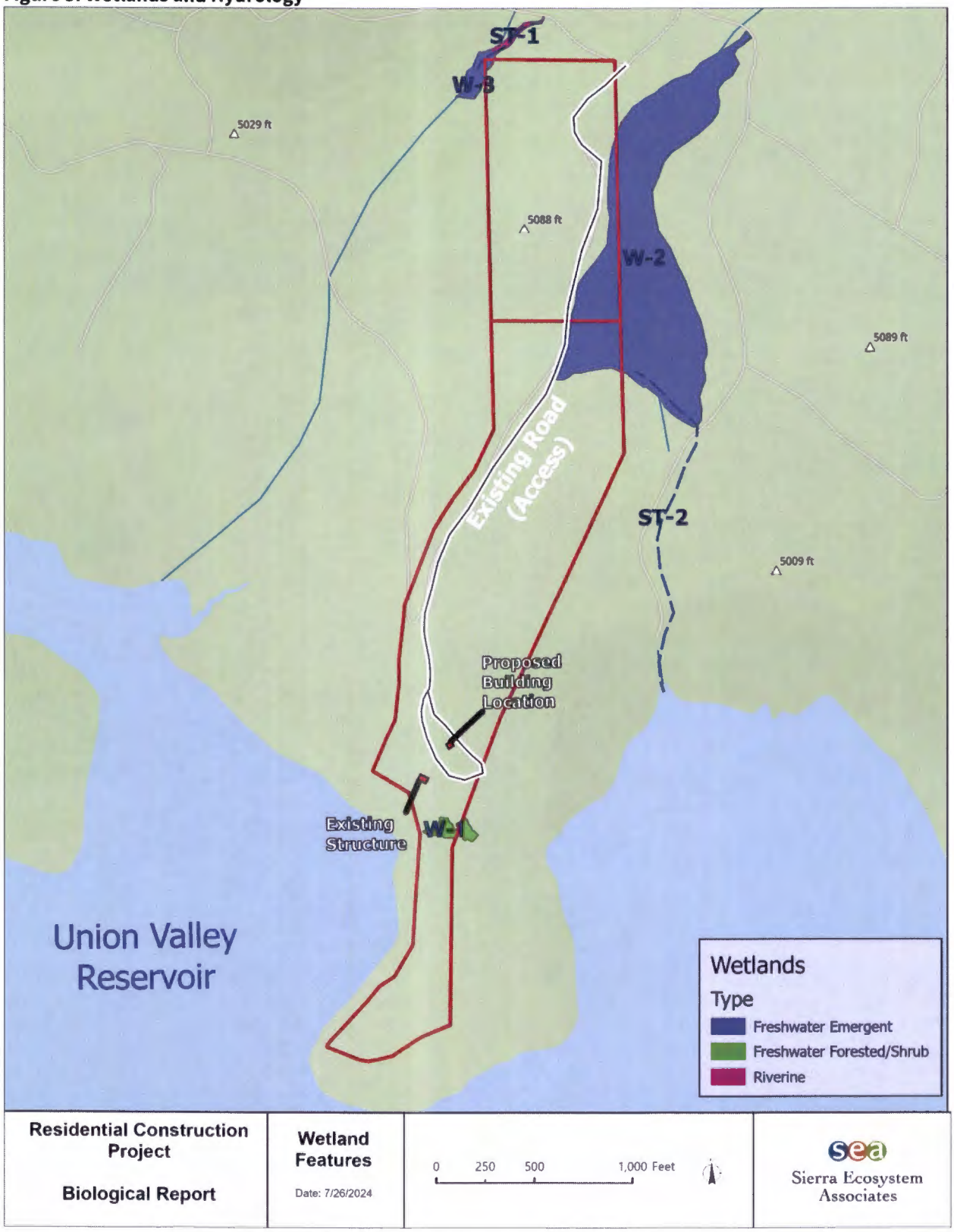
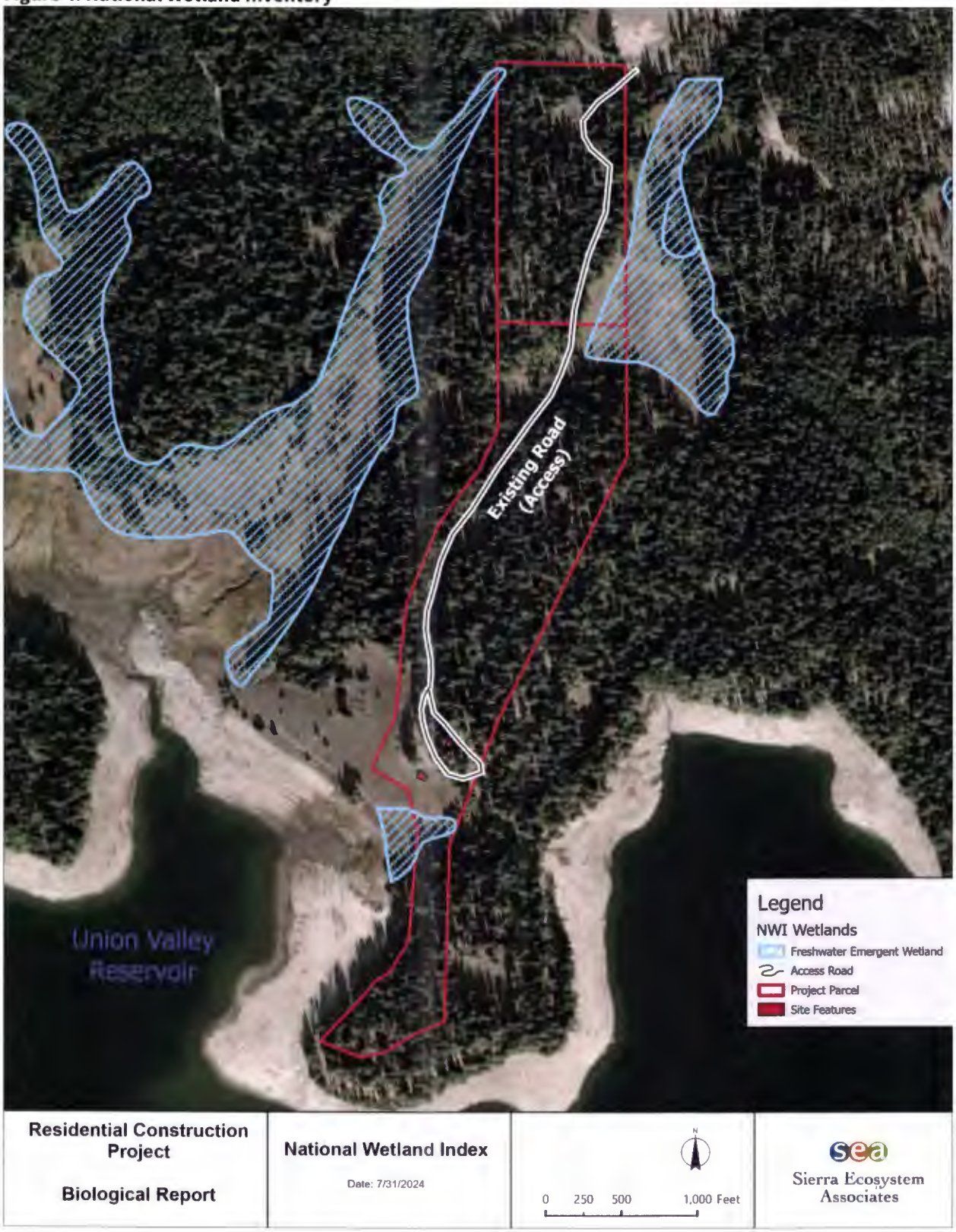


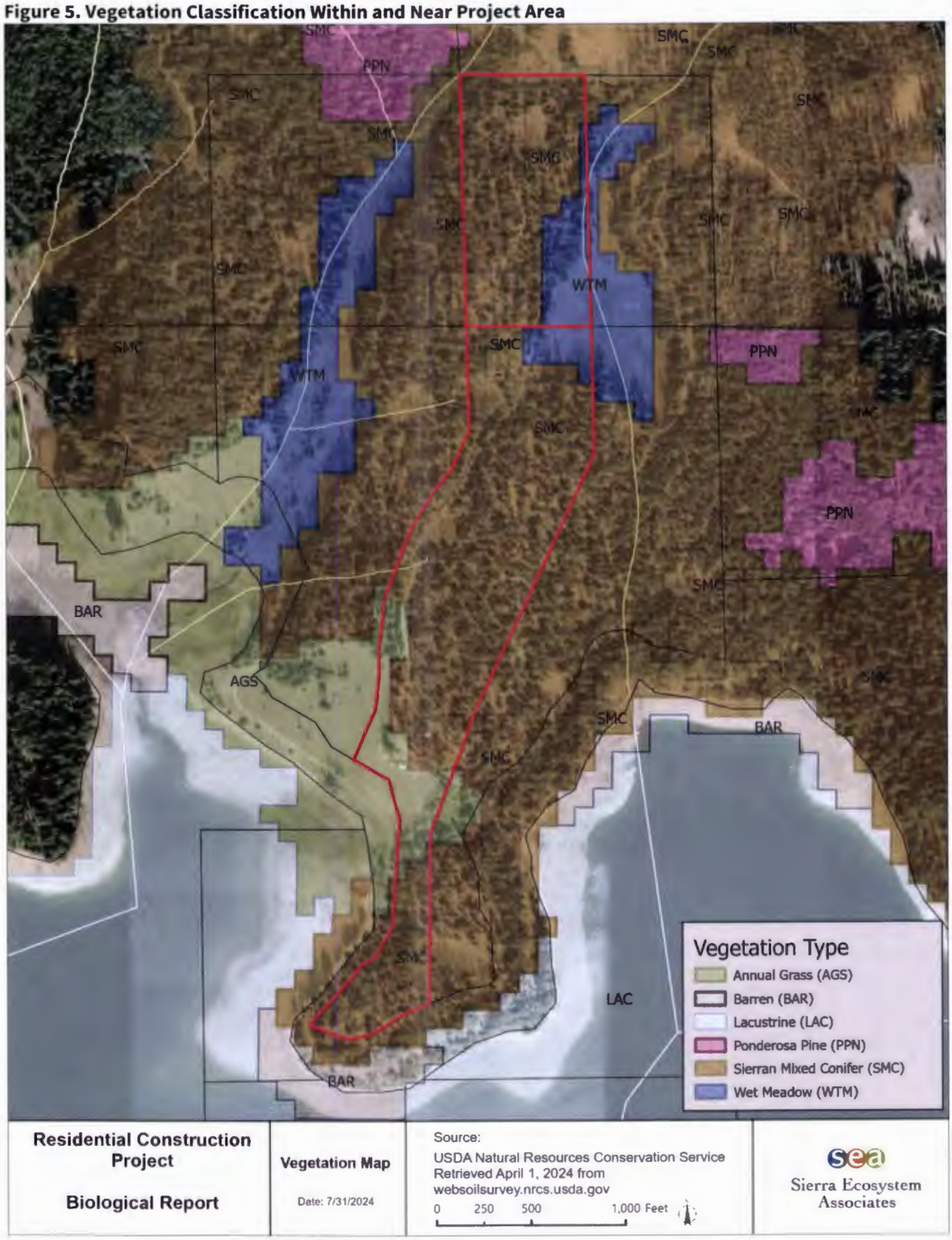
Figure 4. National Wetland Inventory



3.2 Vegetation Classification

There are numerous vegetation classification schemes for California, which have been developed by various agencies and ecologists for several user groups. The California Wildlife Habitat Relationship (CWHR) system was developed by CDFW to predict the habitat value for vertebrate animal species in California (CWHR 2024). Figure 5 shows the vegetation classification of the Project area according to the CWHR system. Although the data shown in Figure 5 is coarse, the vegetation types displayed are consistent with observations of vegetation types identified during the pedestrian field survey. The Project area mainly consists of Sierran mixed conifer with some wet meadow and annual grass classification.

Figure 5. Vegetation Classification Within and Near Project Area



3.3 Soils

The Project is in the USDA Land Resource Region (LRR) 22A, Sierra Nevada Mountains, which is characterized by hilly to steep mountain relief and occasional mountain valleys.

The NRCS Soil Survey indicates that there are four soil series within the study area (see Figure 6). The following description is summarized from the USDA NRCS Custom Soil Resource Report (NRCS 2024).

Table 2. Soil Series in Study Area

Map Unit Name	Acres in Parcel	Percent of Parcel
Aquepts and Umbrepts 0 to 15 percent slopes	6.95	10.6%
Pilliken coarse sandy loam, 5 to 30 percent slopes	58.83	89.4%

Figure 6. Soils Map

4.0 DISCUSSION

The following section provides details on Project impacts and the specific habitat characteristics for potential TES species that are present in the vicinity of the CMT treatment sites. TES species, which are listed in Table 1, are plants and animals that historically occur in the surrounding area and those with potential habitat.

4.1 Plants

Mingan Moonwort (*Botrychium minganense*)
Mingian Moonwort typically grows in soils with high concentrations of lime. The species can be found in or near streambanks, open fields and meadows. Habitat exists in meadows nearby but not within the Project site. Project activities are not likely to cause impacts to this species.

Pleasant Valley mariposa-lily (*Calochortus clavatus var. avius*)
Endemic to Central California and found on dry, rocky slopes, chaparral, and open fields, typically in elevations less than 4,200 feet. Habitat is poor within the treatment areas with limited bare exposed areas, and at a higher elevation than the species are typically found. Project activities are not likely to cause impacts to this species.

Red Hills soaproot (*Chlorogalum grandiflorum*)
Red Hills soaproot is found in chapparal, woodland, and forested areas on gabbro and serpentine soils. This habitat is not present within the Project area. Project activities are not likely to cause impacts to this species.

Sierra arching sedge (*Carex cyrtostachya*)
Sierra arching sedge is found in wet meadows, marshes, seasonally wet outcrops, and riparian margins. Some habitat is present in meadows nearby, with little habitat present within the project area. Project activities are not likely to cause impacts to this species.

Stebbins' phacelia (*Phacelia stebbinsii*)
Stebbins' phacelia is endemic to Central and Northern California and found in rocky soils in forests and open meadows. Some habitat may be present nearby, but there are not many dry, rocky soils within the Project site to support this species. Project activities are not likely to cause impacts to this species.

felt-leaved violet (*Viola tomentosa*)
Felt-leaved violet is endemic to central Sierra Nevada and can be found in dry, open, coniferous forests with gravelly soils. Habitat is poor within the Project area with limited bare exposed areas and gravelly soils. Project activities are not likely to cause impacts to this species.

Saw-toothed lewisia (*Lewisia serrata)*
Saw-toothed Lewisia is found in shady, moist, rocky canyon and ravine walls. This habitat is not present within the Project area. Project activities are not likely to cause impacts to this species.

scalloped moonwort (*Botrychium crenulatum)*
Scalloped moonwort is found sporadically in wet environments, including meadows in coniferous forests and subalpine regions, and marshes. They are typically found in elevations between 3,800 and 9,200 ft. Some habitat may exists in nearby meadows, but habitat is poor within the Project area. Project activities are not likely to cause impacts to this species.

upswept moonwort (*Botrychium ascendens)*
Upswept moonwort is present in Northern California can usually be found in moist environments near riversides or in lowland meadows. Some habitat may exist in nearby meadows, but habitat is poor within the Project Area. Project activities are not likely to cause impacts to this species.

Western goblin (*Botrychium montanum)*
Western Goblin is found in California usually in moist, dark understories of coniferous forests in soils with a high organic matter content. Habitat is poor within the Project area but exists in nearby meadows. Project activities are not likely to cause impacts to this species.

4.2 Animals

Sierra Nevada mountain beaver (*Aplodontia rufa californica)*
The Sierra Nevada Mountain beaver is a CDFW Species of Special Concern. Sierra Nevada mountain beavers occur in dense riparian-deciduous and open, brushy stages of most forest types. Typical habitat in the Sierra Nevada is montane riparian with frequent open and intermediate-canopy coverage with a dense understory near water. Deep, friable soils are required for burrowing, along with a cool, moist microclimate (Beier 1989). This type of habitat is present adjacent to nearby meadows. Project activities would not occur near these habitat locations and are not likely to cause impacts to this species.

Sierra Nevada red fox (*Vulpes vulpes necator pop. 2)*
Sierra Nevad red foxes are found in alpine and barren areas, subalpine forests, red fir forests, lodgepole pine forests, and mixed conifer forest. They are usually found above 7,000 feet. There is little of this habitat present within the Project area, and red foxes are generally found at a higher elevation. Project activities are not likely to cause impacts to this species.

Sierra Nevada yellow-legged frog (*Rana sierrae)*
The Sierra Nevada yellow-legged frog is federally listed as endangered and listed as threatened

in California. This amphibian inhabits lakes, ponds, meadow streams, isolated pools, and sunny riverbanks in the Sierra Nevada Mountains. Waters that do not freeze to the bottom or dry up are required. It prefers open shorelines that gently slope up to shallows of a few inches (CalHerps 2017). Habitat for this species is very poor in the Project area and most water sources do not stay wet or unfrozen year-round. Project activities are not likely to cause impacts to this species.

Yuma myotis (*Myotis yumanensis*)
Yuma myotis are found in forests, riparian zones, grassland and deserts. This species also likes to be near rivers, streams, ponds, and lakes. Habitat like this is present in meadows and lakes outside of the Project area but not within the Project area boundaries. Project activities are not likely to cause impacts to this species.

fringed myotis (*Myotis thysanodes*)
Fringed myotis are typically found in dry environments throughout open grasslands and mature ponderosa, oak and pinyon-juniper forests. There is no habitat near or in the Project area to support this species. Project activities are not likely to cause impacts to this species.

Bald eagle (*Haliaeetus leucocephalus*)
The Bald eagle is listed as endangered in California. Bald eagles forage in large bodies of water. They typically nest in large trees adjacent to a body of water. Nesting occurrences are common nearby on Union Valley Reservoir as there are large trees and snags that may offer potential nesting sites. No nesting raptors were found during the field survey. Project activities are unlikely to adversely impact this species as no trees are being removed or disturbed.

Sharp-shinned hawk (*Accipiter striatus*)
Sharp-shinned hawk is a CDFW Watchlist Species. Sharp-shinned hawks can be found in mixed or coniferous forests, open deciduous woodlands, thickets, and edges. They usually nest in groves of coniferous or deciduous trees with brush or clearings nearby (Sulivan 1994). The adjacent Jeffrey pine and ponderosa forests surrounding may offer potential nesting sites, but Project activities are unlikely to adversely impact this species.

Spotted owl (*Strix occidentalis*)
Habitat includes old growth forests and, in California, oak woodlands and forested canyons. The adjacent Jeffrey pine and ponderosa forests surrounding may offer potential nesting sites, but treatment activities are unlikely to adversely impact this species.

5.0 CONCLUSION

No raptors or migratory birds were observed nesting during the field survey. No nests from previous years were observed. No occurrences of threatened, endangered, or other special status species were observed during the field survey.

The CNDDB database search found that most special status plants and animals prefer habitat within meadows or coniferous forests that exist within 5 miles of the Project. Based on the existing conditions of the Project area, there is very little wetland habitat or year-round water to support these species. Some meadow habitat is present nearby but is outside of the Project area. Species that are most likely to occur are nesting raptors and migratory birds. Because project activities do not include the removal of trees or shrubs that provide suitable nesting habitat, and because no evidence exists of current/past nesting in the Project vicinity, neither nesting raptors nor migratory birds are likely to be impacted.

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7.0 REPORT AUTHORS

The following individuals prepared the text presented in this analysis.

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Jeremy Waites	Arborist/GIS Specialist – Co-author
Summer Abel	Environmental Scientist – Primary Author
Rayann La France	Administrative Services Manager – Editor and Document Production

Appendix A

Project Photos

Photograph 1. View from the bike trail facing the Project site showing the existing structure

Photograph 2. View from the Project site looking towards the lake

Photograph 3. View of existing road and septic tanks to be installed

Photograph 4. Proposed residential structure site

Photograph 5. Overview of the northeastern wetland

Photograph 6. The stream running through the northwestern part of the Project site

Appendix B

Species List

Scientific Name	Common Name
Abies concolor	White fir
Abies magnifica	California red fir
Achillea millefolium	Yarrow
Agrostis pallens	Diego bent grass
Agrostis scabra	Rough bentgrass
Alnus incana	Creek alder
Amelanchier utahensis	Pale leaved serviceberry
Anaphalis margaritacea	Pearly everlasting
Apocynum androsaemifolium	Spreading dogbane
Aquilegia formosa	Columbine
Arctostaphylos nevadensis	Pine mat manzanita
Arctostaphylos patula	Green leaf manzanita
Arctostaphylos patula	Green leaf manzanita
ArtemBistorta bistortoides	American bistortisia
Asarum lemmonii	Lemmon's wild ginger
Bromus tectorum	Downy chess
Calocedrus decurrens	Incense cedar
Carex fracta	Fragile sheathed sedge
Ceanothus cordulatus	Mountain whitethorn
Ceanothus integerrimus	Deer brush
Chamerion angustifolium	Fireweed
Chlorogalum pomeridianum	Amole
Cirsium vulgare	Bullthistle
Cirsium vulgare	Bullthistle
Collomia grandiflora	Large flowered collomia
Corallorhiza striata	Striped coral root
Cornus nuttallii	Mountain dogwood
Cornus sericea	Red osier dogwood
Elymus elymoides	Squirrel tail grass
Elymus glaucus	Blue wild rye
Equisetum arvense	Common horsetail

Erythranthe guttata	Seep monkey flower
Festuca rubra	Red fescue
Fragaria vesca	Wild strawberry
Galium bolanderi	Bolander's bedstraw
Goodyera oblongifolia	Rattlesnake plantain
Hackelia micrantha	Jessica's stickseed
Heracleum maximum	Common cow parsnip
Hieracium albiflorum	White flowered hawkweed
Hordeum brachyantherum	Meadow barley
Hosackia oblongifolia	Narrow leaved lotus
Hypericum perforatum	Klamathweed
Juncus balticus	Wire rush
Lactuca serriola	Prickly lettuce
Lonicera conjugialis	Purpleflower honeysuckle
Lupinus fulcratus	Green stipuled lupine
Madia elegans	Common madia
Monardella sheltonii	Shelton's coyote mint
Pedicularis semibarbata	Pine woods lousewort
Penstemon newberryi	Mountain pride
Pinus contorta	Lodgepole pine
Pinus jeffreyi	Jeffrey pine
Pinus lambertiana	Sugar pine
Pinus ponderosa	Yellow pine
Potentilla flabellifolia	Fan leaved cinquefoil
Pseudotsuga menziesii	Douglas fir
Pteridium aquilinum	Western bracken fern
Pterospora andromedea	Pine drops
Quercus kelloggii	California black oak
Rhododendron occidentale	Western azalea
Ribes nevadense	Mountain pink currant
Ribes roezlii	Sierra gooseberry
Rosa californica	California wild rose
Rumex acetosella	Sheep sorrel
Sambucus mexicana	Elderberry
Senecio integerrimus	Lambstongue groundsel
Senecio triangularis	Groundsel
Sidalcea glaucescens	Glaucous checker mallow
Sisyrinchium bellum	Blue eyed grass
Stipa occidentalis	Common western needle grass
Symphoricarpos albus	Common snowberry
Taraxacum officinale	Red seeded dandelion

Tragopogon dubius	Goat's beard
Veratrum californicum	California corn lily
Verbascum thapsus	Woolly mullein
Viola purpurea	Goosefoot violet

Sierra Ecosystem Associates

Mr. Michael Kuhl

July 31, 2024

Subject: Environmental Compliance Documentation for the Union Valley Residential Construction Project

Dear Mr. Kuhl:

Sierra Ecosystem Associates (SEA) is pleased to submit the following environmental compliance documentation for the Union Valley Residential Construction Project:

- Draft Biological Resources Report
- Draft Preliminary Wetland Delineation Report

Please review the attached documents and advise us as to any necessary changes or if you have any questions. If there are no changes to the enclosed or if you have suggested changes, we will finalize the reports for you to submit to El Dorado County.

Thank you for this opportunity to assist you with this Project. Please feel free to contact me if you have any questions on the above or enclosed.

Sincerely,

Jeremy Waites

Attachments:

- Draft Biological Resource Report
- Draft Preliminary Wetland Delineation Report

1024 Simon Drive, Suite H P.O. Box 2260 Placerville, CA 95667 tel 530 622 8740 www.sierraecos.com

DRAFT

PRELIMINARY WETLAND DELINEATION REPORT

KUHL RESIDENTIAL STRUCTURE CONSTRUCTION PROJECT

Prepared for:

Michael Kuhl
APN: 011-030-058,
011-030-055

Prepared by:

Sierra Ecosystem Associates

1024 Simon Drive
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JULY 31, 2024

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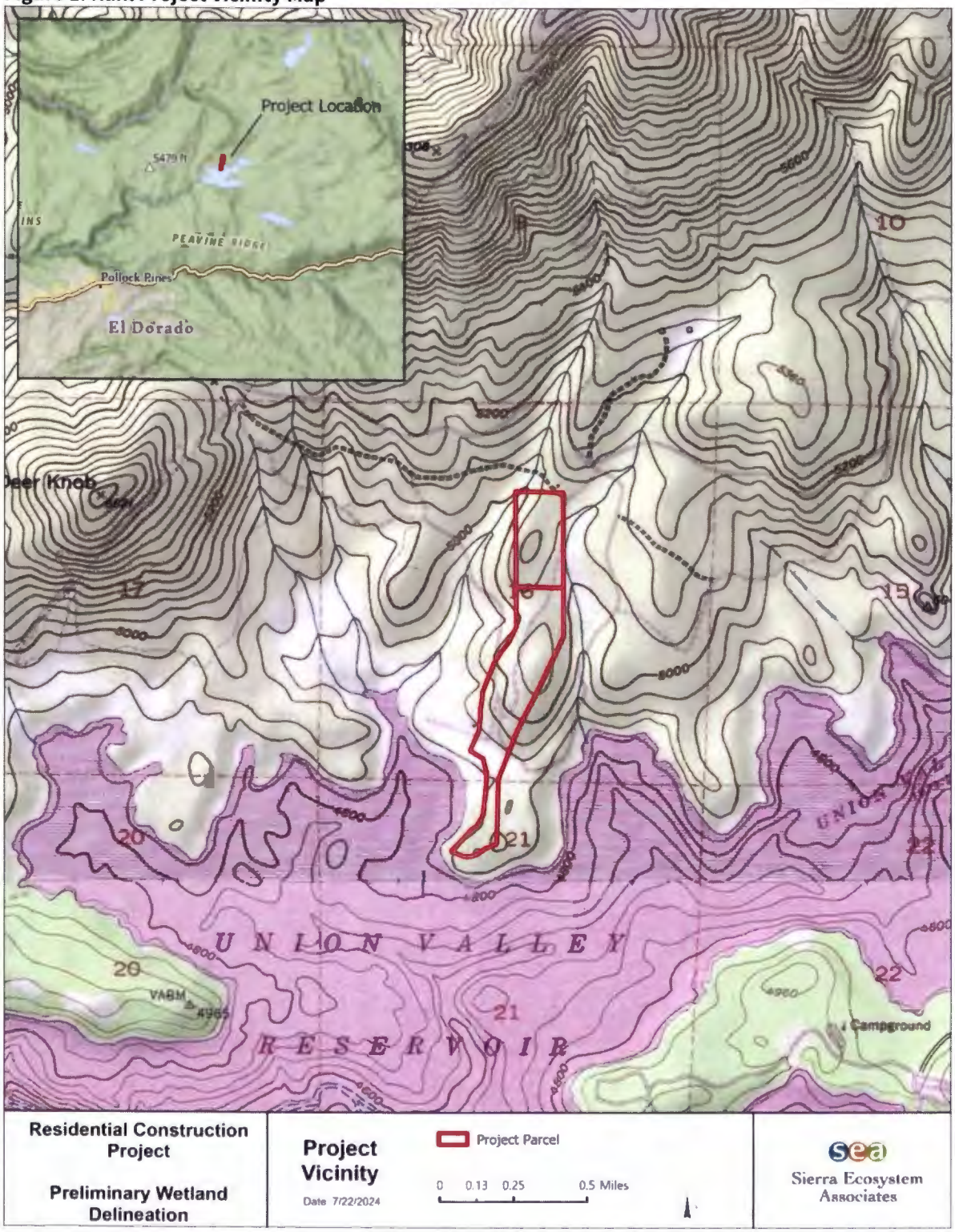
1.0 INTRODUCTION

This document represents a preliminary wetland determination and delineation subject to verification by the U.S. Army Corps of Engineers (USACE). The Preliminary Wetland Delineation (PWD) report describes the existing wetland resources within and near an area identified for a residential construction project on the north shore of Union Valley Reservoir. The PWD consisted of a desktop database review and field data collection in the Project area. The report presents determination of the location of wetland boundaries and includes several maps identifying wetland features of the area including streams and wetlands based on vegetation, soil, and hydrology characteristics.

1.1 Setting

The residential structure construction Project (Project) is located on the north shore of Union Valley Reservoir at approximately 5,000 feet elevation. The Project area consists of mostly upland mixed conifer with a meadow to the west (M-1) and a meadow (M-2) on the eastern boundary 2,000 feet to the north of the proposed construction site. The meadows are fed by snowmelt in the spring and groundwater throughout the summer and fall and flow into Union Valley Reservoir. The overstory consists of fir and pine species with a mix of incense cedar, black oak, and Douglas fir. Figure 1 shows the Project vicinity.

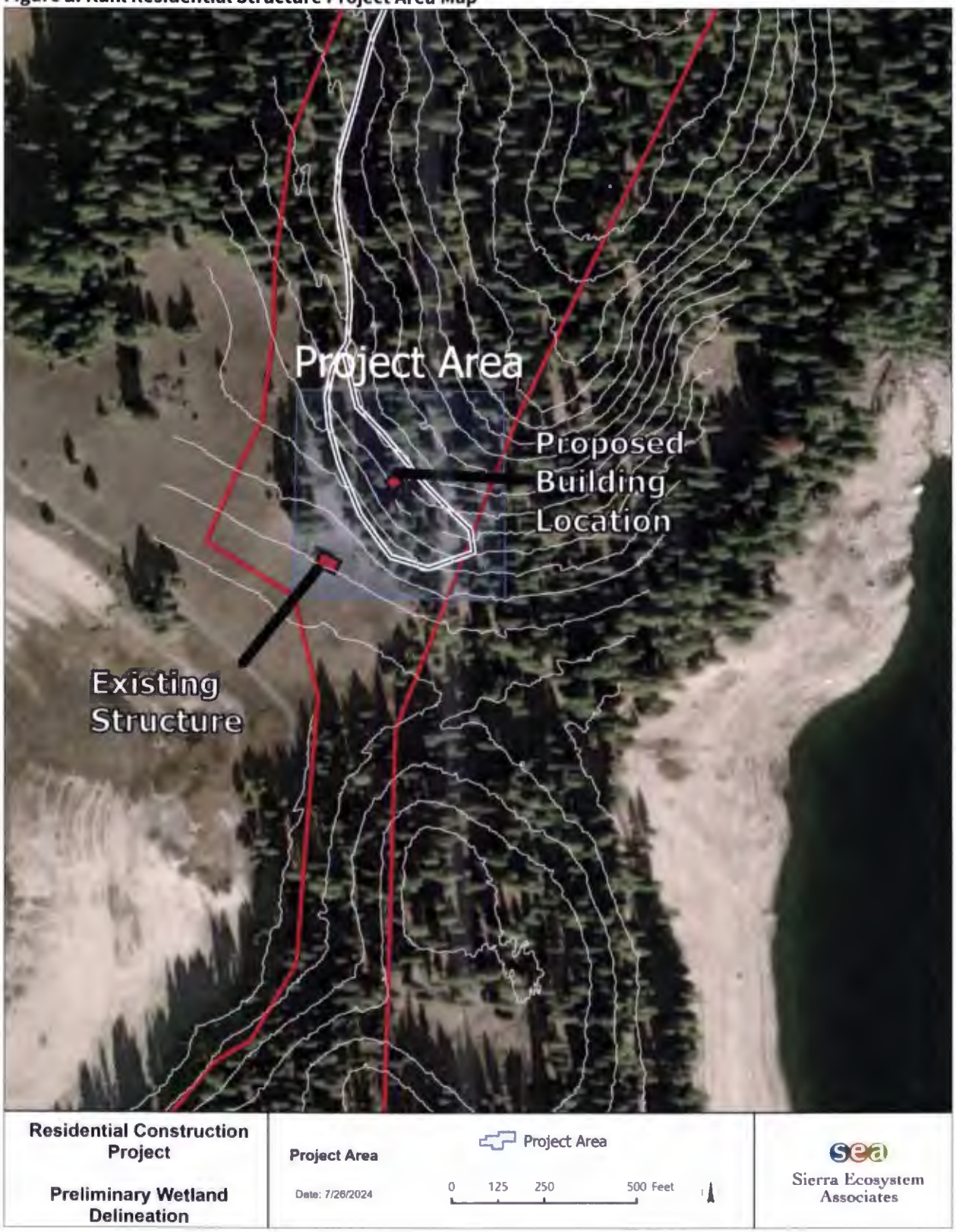
Figure 1. Kuhl Project Vicinity Map



1.2 Project Description

The Project is to construct a residential structure approximately 250 feet northwest of an existing structure and 50 feet higher in elevation. The locations of the existing structure and proposed structure are shown below in Figure 2. Staging areas will be located outside the Project area and access routes will be on existing roads.

Figure 2. Kuhl Residential Structure Project Area Map



2.0 METHODOLOGY

This PWD was prepared in accordance with the 1987 USACE Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the USACE of Engineers Wetland Delineation Manual: Western Mountains Region (Version 2.0) (USACE 2008). The Study Area was surveyed on June 20, 2024 to gather the necessary soil, vegetation, and hydrology data to prepare the PWD report. Data was collected according to procedures of the above referenced documents for determination of the wetland boundaries and data was collected and entered into the Wetland Determination Data Forms (Appendix A). The Study Area where data collection and field surveys took place is shown on Figure 1 in the Project Parcel. The Project Area outline with the existing structure and proposed building location are defined and shown above in Figure 2.

- Wetland Delineation Study Area (Study Area): Total area of data collection that includes the Project Area and the entire parcel.
- Project Area: Total area where work is planned that is the approximate location of the residential structure construction site.

Sierra Ecosystem Associates (SEA) Senior Ecologist, Jeremy Waites, served as the principal author of the PWD report. Mr. Waites has over 18 years of professional experience completing a variety of biological studies and preparing associated reports and has completed numerous wetland delineations in the Sierra Nevada region.

Observation/data points were composed of paired data collection locations based on field conditions. Each pair of points was placed equidistant from the wetland boundary determined by the indicators at each data point. At each data point, the site was examined for hydrophytic vegetation, hydric soils, and wetland hydrology and recorded on the attached Data Forms (Appendix A). Wetland boundaries, data points and other waters, including streams, were mapped using a sub-meter accuracy GPS unit and are shown in Figure 5.

Vegetation was sampled and quantified at each point by each taxon's percent cover of the observation area and identified to species level wherever possible using the Jepson Manual: Higher Plants of California nomenclature (Hickman 1993) (Jepson eFlora 2024). The 2016 National Wetland Plant List and the U.S. Department of Agriculture (USDA) Plants database were consulted to determine the wetland indicator status for each plant [Upland (UPL), Facultative Upland (FACU), Facultative (FAC), Facultative Wetland (FACW), and Obligate (OBL)] (Lichvar et al. 2016, USDA NRCS 2024).

Soil pits were dug to a depth necessary to document evidence of hydric soils and examined at each potential wetland and adjacent upland. Each soil sample was moistened before determining texture and color. Soil texture was determined in the field by approximating the percentage of sand, silt, and clay using the USDA soil texture triangle. Soil colors were determined using the Munsell Soil Color Charts (2000). The soils were classified using the USDA soil texture nomenclature as described in the University of Florida Extension Fact Sheet SL-29

(Brown 2003). Hydric soil indicators described in the Supplemental Manual and the USDA Natural Resource Conservation Service (NRCS) publication of Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils were used to determine if hydric soils are present (USDA 2017).

Wetland hydrology indicators were evaluated at potential wetlands. Determination of the ordinary high-water mark (OHWM) was based on the definition provided in the USACE regulations under the Clean Water Act (CWA) 33 CFR 328.3(e) and the Regulatory Guidance Letter No. 05-05 (USACE 2005). All existing conditions are described in more detail in Section 3.2. Environmental Conditions, and OHWM determinations were based upon direct or indirect evidence as described in both the 1987 Manual and the Supplemental Manual and the Regulatory Guidance Letter No. 05-05.

The following data sources were collected prior to going to the field on June 20, 2024:

- Web Soil Survey (NRCS 2024): The web soil survey was reviewed to determine which soil series have been mapped on-site and whether any hydric soils are present. A Custom Soil Resource Report for El Dorado County California, Digital GIS shapefiles of the mapped soils obtained from the NRCS were downloaded and mapped for the Project.
- National Wetlands Inventory (NWI) [U.S. Fish and Wildlife Service (USFWS) 2024]: Digital geographic information system (GIS) shapefiles of existing, mapped NWI wetlands were downloaded from the USFWS Wetlands Geodatabase and mapped for the Project.
- National Hydrography Dataset (NHD) [U.S. Geological Survey (USGS) 2023]: Digital GIS shapefiles of the hydrographic data for the region were downloaded from the USGS NHD Geodatabase and mapped for the Project.
- The USGS 7.5-minute Robbs Peak SE topographic quadrangle map: The quad map was reviewed for existing waters and other potential wetland features or topography that indicated the potential for drainage or ponding.
- Habitat Classification: The habitat was classified by reviewing the Manual of California Vegetation classification scheme and based on knowledge of plant communities in the region (Sawyer and Keeler-Wolf 2009). These vegetation communities can be cross-walked with other vegetation classification schemes as necessary.
- Aerial Photography: National Agricultural Imagery Program (NAIP) 2024 El Dorado County, color, ortho-rectified 0.3-meter pixel resolution: Aerial photography was used to determine coarse locations of wetland boundaries and data collection points.

2.1 Site Assessment

After completing the database review, SEA staff Senior Ecologist, Jeremy Waites, Environmental Scientist, Summer Abel, and Assistant Environmental Scientist Aria Pauling visited the Project area and completed a pedestrian field survey on June 20, 2024. The purpose of the field survey was to collect data that would aid in determining the boundaries of all

wetlands in the Project area. Data collected during the field assessment and photos of collected samples can be found in Appendix A and Appendix B, respectively.

3.0 RESULTS AND DISCUSSION

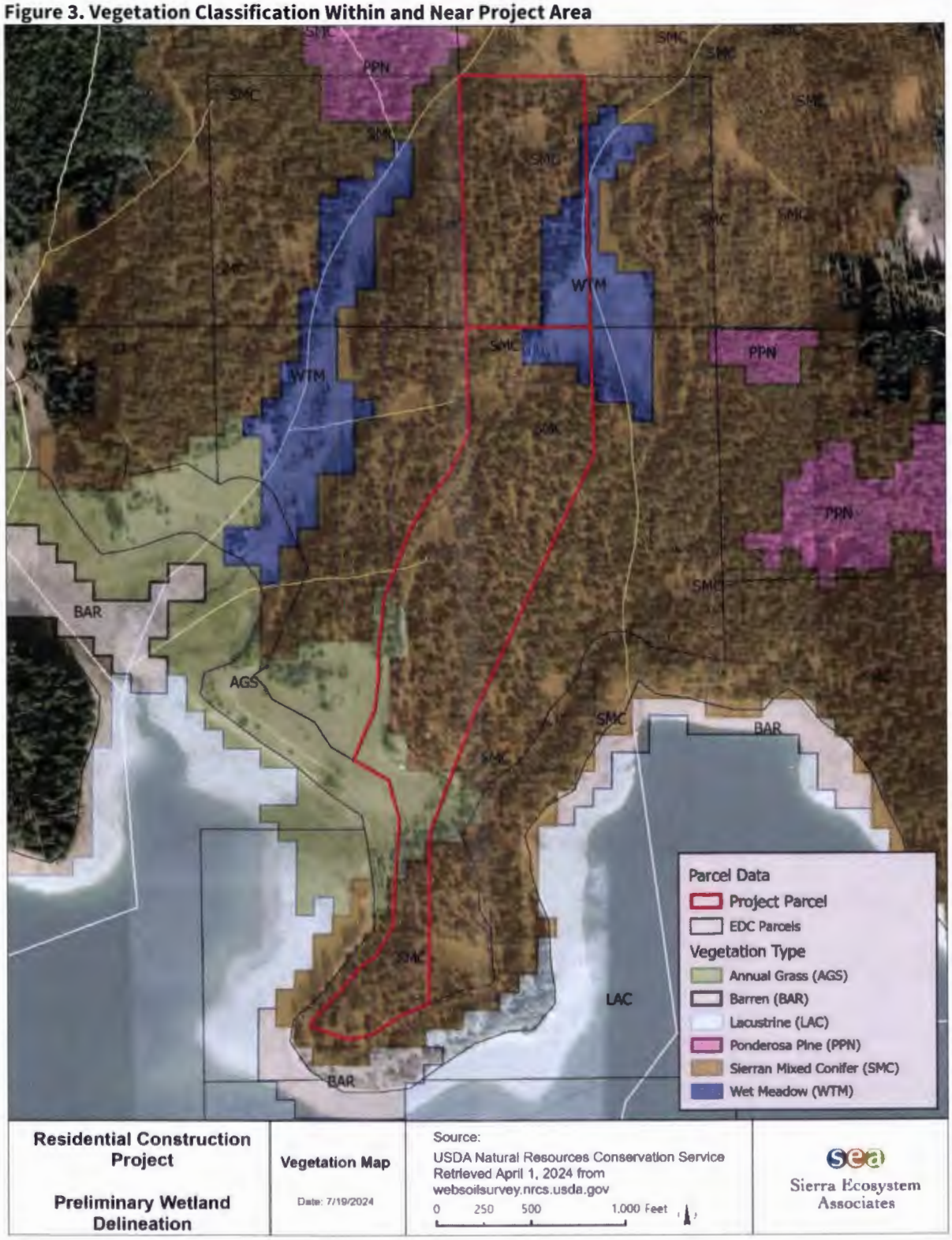
This section describes the existing environmental conditions including soils, vegetation, and wetland features.

3.1 Habitat Classification

There are numerous vegetation classification schemes for California, which have been developed by various agencies and ecologists for various user groups. The California Wildlife Habitat Relationship (CWHR) system was developed by CDFW to predict the habitat value for vertebrate animal species in California (CWHR 2024). Figure 3 shows the vegetation classification of the Project area according to the CWHR system. Although the data shown in Figure 3 are coarse, the vegetation types displayed are consistent with observations of vegetation types identified during the pedestrian field survey. The following descriptions characterize the four major vegetation types found within the Study area.

- Annual Grassland usually contains perennial bunch grasses such as squirrel tail (*Elymus*), mules ear (*Wyethia*), and sometimes sagebrush (*Artemisia*). Many of these species have been displaced by non-native annual grasses. This is more common at lower elevations.
- Wet Meadow is made up of a large variety of plant species. Those species most common to wet meadows in the north-central Sierra at this elevation include *Agrostis, Carex, Danthonia, Juncus, Salix, and Scirpus*. Important grass and grass-like species include thingrass, abruptbeak sedge, beaked sedge, Nebraska sedge, tufted hairgrass, needle spikerush, fewflowered spikerush, common spikerush, baltic rush, Nevada rush, iris-leaf rush, pullup muhly, and panicled bulrush.
- Sierran Mixed Conifer is defined by vegetation consisting of thinleaf alder, aspen, cottonwood, dogwood, wild azalea, willow, and water birch. Montane riparian is found associated with montane lakes, ponds, seeps, bogs and meadows as well as rivers, streams and springs. Within the Project Area, lodgepole and honeysuckle are common in the upper edges of the meadow.

Figure 3. Vegetation Classification Within and Near Project Area



3.2 Environmental Conditions

The Project is in the USDA Land Resource Region (LRR) 22A, Sierra Nevada Mountains, which is characterized by hilly to steep mountain relief and occasional mountain valleys.

Soils

The NRCS Soil Survey indicates that there are four soil series within the study area (see Figure 4). The following description is summarized from the USDA NRCS Custom Soil Resource Report (NRCS 2024).

Table 1. Soil Series in Study Area

Map Unit Name	Acres in Parcel	Percent of Parcel
Aquepts and Umbrepts 0 to 15 percent slopes	6.95	10.6%
Pilliken coarse sandy loam, 5 to 30 percent slopes	58.83	89.4%

Aquepts Series

Aquepts are poorly drained or very poorly drained soils that are formed in alluvial material on broad valley flats and along drainages. Slope ranges from 0 to 15 percent. Vegetation is the Sedge-Rush series.

- Aquepts and Umbrepts, 0 to 15 percent slopes soils

Pilliken Series

The Pilliken series consists of deep, well drained soils formed in material weathered from granitic rocks. They are on mountainsides with slopes of 5 to 75 percent. Mean annual precipitation is 53 inches and mean annual temperature is 49 degrees F.

- Pilliken coarse sandy loam, 5 to 30 percent slopes

Figure 4. Soils Map

Wetlands and Other Potential Army Corps of Engineers' Jurisdictional Waters

Wetlands are defined as, "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (USACE 1987). Wetland habitats occur within the Project Area.

During the site assessment, potential jurisdictional wetlands and waters were mapped based on vegetation indicators, the presence of hydric soils and visible hydrology. Data corresponding to the wetland determination is included in Appendix A. Figure 5 shows the wetlands that exist within and nearby the Project Area.

Deepwater Aquatic Habitats

Deepwater aquatic habitat is defined as, "areas that are permanently inundated at mean annual water depths > 6.6 feet or permanently inundated areas ≤ 6.6 feet in depth that do not support rooted-emergent or woody plant species" (USACE 1987). There is one feature within the study area that meets this definition which is Union Valley Reservoir. Union Valley Reservoir is a Sacramento Municipal Utility District maintained reservoir that decreases in volume in the fall to early winter and is close to full pool in normal rain years following snowmelt periods. The ordinary high-water mark for this reservoir is approximately 770 feet from Project activities.

Figure 5. Wetlands and Hydrology

3.3 Aquatic Features and Potential Wetlands

The wetland and hydrological features from the National Wetland Inventory and the National Hydrology Dataset (USFWS 2024) are shown in Figure 6. Overland flow is generally from north to south. Two streams (ST-1, ST-2) shown in Figure 5 are on either side of the Project. Both flow through meadows and empty into Union Valley Reservoir.

Following completion of the field assessment, delineated features of the wetland differ from those defined by the NWI. NWI wetland data is presented in Figure 6. Specifically, based on the field survey data, the wetlands extend farther and the most southern wetland (W-1) is more complex. W-1 has many wetland plant species, but trends to more upland invasive plant species in the later drier season. The NWI dataset classifies the wetlands within the study area as: Emergent Wetland but also contains Forested Shrub Wetland and Riverine.

Figure 6. National Wetland Inventory

4.0 SUMMARY OF FINDINGS

Wetlands within the study area are localized to the three wetland areas W-1, W-2, and W-3. W-1 was a mix of wetland and upland species and its characteristics barely indicated it as a wetland. W-2 is part of a large meadow complex in which the overland flow converged into (ST-2) on the southeastern side into a culvert and road. W-3 forms from a stream (ST-1) and is a riverine wetland. The overland flow of ST-1 disperses and forms a large freshwater emergent wetland.

The annual grass area between the existing structure and the lake was examined closely for wetland indicators. This area had sandy and very well drained soils with no indicators of being a wetland.

0 acres of wetlands and other waters have been identified within the Project disturbance area as shown in Table 2, below. The disturbance area is based on the following Project features:

- Construction of new residential structure
- Access routes and staging areas

Table 2. Wetland Area Calculations

Location	Acres	Square Feet
Within Study Area and Outside Project Area	4.2	183,514
Within Project Construction Area	0	0

Based on this PWD, no impacts to wetlands will result from the Project.

5.0 REPORT AUTHORS

The following individuals prepared the text presented in this analysis.

Sierra Ecosystem Associates

Rick A. Lind	Principal-In-Charge – Document Review
Jeremy Waites	Arborist/GIS Specialist – Primary Author
Summer Abel	Environmental Scientist – Document Review
Rayann La France	Administrative Services Manager – Editor and Document Production

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U.S. Geological Survey, 2023, National Hydrography Dataset (NHD) - USGS National Map Downloadable Data Collection: USGS - National Geospatial Technical Operations Center (NGTOC).

Appendix A

Wetland Delineation Data Forms

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Union Valley City/County: El Dorado Sampling Date: 6/20/2024
Applicant/Owner: Michael Kuhl State: CA Sampling Point: WD-1
Investigator(s): Jeremy Waites, Summer Abel Section, Township, Range: Section 16, T12N, R14E
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 1
Subregion (LRR): D Latitude: 38.879483 Longitude: -120.4142 Datum: WGS84
Soil Map Unit Name: Pilliken coarse sandy loam, 5 to 30 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	Is the Sampled Area within a Wetland? Yes ___ No X
Hydric Soil Present?	Yes ___ No X	
Wetland Hydrology Present?	Yes ___ No X	
Remarks:		

VEGETATION - Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ___)			
1.			
2.			
3.			
4.			
	0	Total Cover	
Sapling/Shrub Stratum (Plot size: ___)			
1.			-
2.			
3.			
4.			
5.			
	0	Total Cover	
Herb Stratum (Plot size: ___)			
1. *Rumex acetoselle*	30	Y	FACU
2. *Verbascum thapsus*	1		FACU
3. *Madia elegans*	1		-
4. *Juncus tenuis*	1		FAC
5. *Leptosiphon ciliatus*	1		-
6.			
7.			
8.			
	34	Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	Total Cover	

% Bare Ground in Herb Stratum 50 % Cover of Biotic Crust ___

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species 0	x 1 =	0
FACW species 0	x 2 =	0
FAC species 1	x 3 =	3
FACU species 32	x 4 =	128
UPL species ___	x 5 =	0
Column Totals: 33 (A)		131 (B)

Prevalence Index = B/A = 3.97

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

Hydrophytic Vegetation Present?
Yes ___ No X

Western Mountains, Valleys and Coast Region

US Army Corp of Engineers

SOIL Sampling Point: WD-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	LOC[2]	Texture	Remarks
12	7.5 YR 3/2	100					sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils[3]:

___ Histosol (A1)	___ Sandy Redox (S5)	___
___ Histic Epipedon (A2)	___ Stripped Matrix (S6)	___ 2 cm Muck (A10) (LRR B)
___ Black Histic (A3)	___ Loamy Mucky Mineral(F1)	___ Very Shallow Dark Surface
___ Hydrogen Sulfide (A4)	___ Loamy Gleyed Matrix (F2)	___ Red Parent Material (TF2)
___ Depleted Below Dark Surface (A11	___ Depleted Matrix (F3)	___ Other (Explain in Remarks)
___ Thick Dark Surface (A12)	___ Redox Dark Surface (F6)	
___ Depleted Below Dark Surface (A11	___ Depleted Dark Surface (F7)	[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
___ Sandy Mucky Mineral (S1)	___ Redox Depressions (F8)	
___ Sandy Gleyed Matrix (S4)	___	

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
___ Surface Water (A1)	___ Salt Crust (B11)	___ Water Stained Leaves
___ High Water Table (A2)	___ Water Stained Leaves	___ Raised Ant Mounds
___ Saturation (A3)	___ Aquatic Invertebrates (B13)	___ Frost Heave Hummocks
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Drainage Patterns (B10)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres along Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Surface Soil Cracks (B6)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C2)
___ Inundation Visible on Aerial Imagery (B7)	___ Stunted or Stressed Plants	___ Shallow Aquitard (D3)
___ Sparsely Vegetated Concave Surface	___ Other (Explain in Remarks)	___ FAC-Neutral Test (D5)
___ Algal Mat or Crust	___	___ Geomorphic Position
___ Iron Deposits		

Field Observations:
Surface Water Present? Yes ___ No X Depth (inches) _____
Water Table Present? Yes ___ No X Depth (inches) _____
Saturation Present? Yes ___ No X Depth (inches) _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Western Mountains, Valleys and Coast Region

US Army Corp of Engineers

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Union Valley | City/County: El Dorado | Sampling Date: 6/20/2024
Applicant/Owner: Michael Kuhl | State: CA | Sampling Point: WD-2
Investigator(s): Jeremy Waites, Summer Abel | Section, Township, Range: Section 16, T12N, R14E
Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): none | Slope (%): 1
Subregion (LRR): D | Latitude: 38.8793 | Longitude: -120.4140 | Datum: WGS84
Soil Map Unit Name: Pilliken coarse sandy loam, 5 to 30 percent slopes | NWI classification: Freshwater Emergent Wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No ___	Is the Sampled Area within a Wetland? Yes X No ___
Hydric Soil Present?	Yes x No ___	
Wetland Hydrology Present?	Yes x No ___	

Remarks:

VEGETATION - Use scientific names of plants

Tree Stratum (Plot size: ___)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus jeffreyii*	5		
2. *Pinus contorta*	2		
3.			
4.			
	7	Total Cover	
Sapling/Shrub Stratum (Plot size: ___)			
1.			-
2.			
3.			
4.			
5.			
	0	Total Cover	
Herb Stratum (Plot size: ___)			
1. *Carex inopa*	90	Y	OBL
2. *Poa pratensis*	5		FAC
3. *Lolium pratense*	5		-
4.			
5.			
6.			
7.			
8.			
	100	Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	Total Cover	

% Bare Ground in Herb Stratum 1 | % Cover of Biotic Crust ___

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	90	x 1 =	90
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species		x 5 =	0
Column Totals:	95 (A)		105 (B)

Prevalence Index = B/A = 1.11

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index is ≤3.0[1]
___ Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

Hydrophytic Vegetation Present?
Yes X No ___

Western Mountains, Valleys and Coast Region

US Army Corp of Engineers

SOIL Sampling Point: WD-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	LOC[2]	Texture	Remarks
12	10 YR 3/4	100					sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils[3]:

___ Histosol (A1)	_X_ Sandy Redox (S5)	___	
___ Histic Epipedon (A2)	___ Stripped Matrix (S6)	___	2 cm Muck (A10) (LRR B)
___ Black Histic (A3)	___ Loamy Mucky Mineral(F1)	___	Very Shallow Dark Surface
___ Hydrogen Sulfide (A4)	___ Loamy Gleyed Matrix (F2)	___	Red Parent Material (TF2)
___ Depleted Below Dark Surface (A11	___ Depleted Matrix (F3)	___	Other (Explain in Remarks)
___ Thick Dark Surface (A12)	___ Redox Dark Surface (F6)		
___ Depleted Below Dark Surface (A11	___ Depleted Dark Surface (F7)		
___ Sandy Mucky Mineral (S1)	___ Redox Depressions (F8)		
___ Sandy Gleyed Matrix (S4)			

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _X_ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
___ Surface Water (A1)	___ Salt Crust (B11)	___ Water Stained Leaves
___ High Water Table (A2)	___ Water Stained Leaves	___ Raised Ant Mounds
___ Saturation (A3)	___ Aquatic Invertebrates (B13)	___ Frost Heave Hummocks
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Drainage Patterns (B10)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres along Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Surface Soil Cracks (B6)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C2)
___ Inundation Visible on Aerial Imagery (B7)	___ Stunted or Stressed Plants	___ Shallow Aquitard (D3)
___ Sparsely Vegetated Concave Surface	___ Other (Explain in Remarks)	___ FAC-Neutral Test (D5)
___ Algal Mat or Crust	___	___ Geomorphic Position
___ Iron Deposits		

Field Observations:
Surface Water Present? Yes ___ No _X_ Depth (inches) _____
Water Table Present? Yes ___ No _X_ Depth (inches) _____
Saturation Present? Yes ___ No _X_ Depth (inches) _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ___ No _X_

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Western Mountains, Valleys and Coast Region

US Army Corp of Engineers

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Union Valley City/County: El Dorado Sampling Date: 6/20/2024
Applicant/Owner: Michael Kuhl State: CA Sampling Point: WD-3
Investigator(s): Jeremy Waites, Summer Abel Section, Township, Range: Section 16, T12N, R14E
Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 1
Subregion (LRR): D Latitude: 38.879073 Longitude: -120.4139 Datum: WGS84
Soil Map Unit Name: Pilliken coarse sandy loam, 5 to 30 percent slopes NWI classification: Freshwater Emergent Wetland
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	Is the Sampled Area within a Wetland? Yes X No ___
Hydric Soil Present?	Yes X No ___	
Wetland Hydrology Present?	Yes ___ No X	

Remarks:

VEGETATION - Use scientific names of plants

Tree Stratum (Plot size: ___)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus jeffreyii*	5		-
2.			
3.			
4.			
	5	Total Cover	
Sapling/Shrub Stratum (Plot size: ___)			
1.			-
2.			
3.			
4.			
5.			
	0	Total Cover	
Herb Stratum (Plot size: ___)			
1. *Rumex acetoselle*	5		FACU
2. *Verbascum thapsus*	2		FACU
3. *Carex fracta*	80	Y	FAC
4. *Juncus tenuis*	1	5	FAC
5. *Leymus triticoides*	2		FAC
6.			
7.			
8.			
	90	Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	Total Cover	

% Bare Ground in Herb Stratum 3 % Cover of Biotic Crust ___

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	83	x 3 =	249
FACU species	2	x 4 =	8
UPL species		x 5 =	0
Column Totals:	85 (A)		257 (B)

Prevalence Index = B/A = 3.02

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

Hydrophytic Vegetation Present?
Yes X No ___

Western Mountains, Valleys and Coast Region

US Army Corp of Engineers

SOIL Sampling Point: WD-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	LOC[2]	Texture	Remarks
6	10 YR 3/3	100					sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils[3]:

___ Histosol (A1)	X Sandy Redox (S5)	___	
___ Histic Epipedon (A2)	___ Stripped Matrix (S6)	___	2 cm Muck (A10) (LRR B)
___ Black Histic (A3)	___ Loamy Mucky Mineral(F1)	___	Very Shallow Dark Surface
___ Hydrogen Sulfide (A4)	___ Loamy Gleyed Matrix (F2)	___	Red Parent Material (TF2)
___ Depleted Below Dark Surface (A11	___ Depleted Matrix (F3)	___	Other (Explain in Remarks)
___ Thick Dark Surface (A12)	___ Redox Dark Surface (F6)		
___ Depleted Below Dark Surface (A11	___ Depleted Dark Surface (F7)		
___ Sandy Mucky Mineral (S1)	___ Redox Depressions (F8)		
___ Sandy Gleyed Matrix (S4)	___		

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
___ Surface Water (A1)	___ Salt Crust (B11)	___ Water Stained Leaves
___ High Water Table (A2)	___ Water Stained Leaves	___ Raised Ant Mounds
___ Saturation (A3)	___ Aquatic Invertebrates (B13)	___ Frost Heave Hummocks
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Drainage Patterns (B10)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres along Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Surface Soil Cracks (B6)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C2)
___ Inundation Visible on Aerial Imagery (B7)	___ Stunted or Stressed Plants	___ Shallow Aquitard (D3)
___ Sparsely Vegetated Concave Surface	___ Other (Explain in Remarks)	___ FAC-Neutral Test (D5)
___ Algal Mat or Crust	___	___ Geomorphic Position
___ Iron Deposits		

Field Observations:
Surface Water Present? Yes ___ No X Depth (inches) _____
Water Table Present? Yes ___ No X Depth (inches) _____
Saturation Present? Yes ___ No X Depth (inches) _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Western Mountains, Valleys and Coast Region

US Army Corp of Engineers

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Union Valley | City/County: El Dorado | Sampling Date: 6/20/2024
Applicant/Owner: Michael Kuhl | State: CA | Sampling Point: WD-4
Investigator(s): Jeremy Waites, Summer Abel | Section, Township, Range: Section 16, T12N, R14E
Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): none | Slope (%): 1
Subregion (LRR): D | Latitude: 38.878934 | Longitude: -120.4137 | Datum: WGS84
Soil Map Unit Name: Pilliken coarse sandy loam, 5 to 30 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	Is the Sampled Area within a Wetland? Yes ___ No X
Hydric Soil Present?	Yes ___ No X	
Wetland Hydrology Present?	Yes ___ No X	

Remarks:

VEGETATION - Use scientific names of plants

Tree Stratum (Plot size: ___)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus jeffreyii*	40	X	-
2. *Abies concolor*	20		-
3.			
4.			
	60	Total Cover	
Sapling/Shrub Stratum (Plot size: ___)			
1.			-
2.			
3.			
4.			
5.			
	0	Total Cover	
Herb Stratum (Plot size: ___)			
1. *Lotus corniculatus*	1		FAC
2. *Verbascum thapsus*	1		FACU
3. *Achillea millefolium*	5		FACU
4. *Cynosurus echinatus*	1		-
5. *Leptosiphon ciliatus*	3		-
6.			
7.			
8.			
	11	Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	Total Cover	

% Bare Ground in Herb Stratum 50 | % Cover of Biotic Crust ___

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	1	x 3 =	3
FACU species	8	x 4 =	24
UPL species		x 5 =	0
Column Totals:	7 (A)		27 (B)

Prevalence Index = B/A = 3.86

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

Hydrophytic Vegetation Present?
Yes ___ No X

Western Mountains, Valleys and Coast Region

US Army Corp of Engineers

SOIL Sampling Point: WD-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	LOC[2]	Texture	Remarks
8	10 YR 3/2	100					sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils[3]:

___ Histosol (A1)	___ Sandy Redox (S5)	___
___ Histic Epipedon (A2)	___ Stripped Matrix (S6)	___ 2 cm Muck (A10) (LRR B)
___ Black Histic (A3)	___ Loamy Mucky Mineral(F1)	___ Very Shallow Dark Surface
___ Hydrogen Sulfide (A4)	___ Loamy Gleyed Matrix (F2)	___ Red Parent Material (TF2)
___ Depleted Below Dark Surface (A11	___ Depleted Matrix (F3)	___ Other (Explain in Remarks)
___ Thick Dark Surface (A12)	___ Redox Dark Surface (F6)	
___ Depleted Below Dark Surface (A11	___ Depleted Dark Surface (F7)	[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
___ Sandy Mucky Mineral (S1)	___ Redox Depressions (F8)	
___ Sandy Gleyed Matrix (S4)		

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
___ Surface Water (A1)	___ Salt Crust (B11)	___ Water Stained Leaves
___ High Water Table (A2)	___ Water Stained Leaves	___ Raised Ant Mounds
___ Saturation (A3)	___ Aquatic Invertebrates (B13)	___ Frost Heave Hummocks
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Drainage Patterns (B10)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres along Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Surface Soil Cracks (B6)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C2)
___ Inundation Visible on Aerial Imagery (B7)	___ Stunted or Stressed Plants	___ Shallow Aquitard (D3)
___ Sparsley Vegetated Concave Surface	___ Other (Explain in Remarks)	___ FAC-Neutral Test (D5)
___ Algal Mat or Crust	___	___ Geomorphic Position
___ Iron Deposits		

Field Observations:
Surface Water Present? Yes ___ No X Depth (inches) _____
Water Table Present? Yes ___ No X Depth (inches) _____
Saturation Present? Yes ___ No X Depth (inches) _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Western Mountains, Valleys and Coast Region

US Army Corp of Engineers

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Union Valley | City/County: El Dorado | Sampling Date: 6/20/2024
Applicant/Owner: Michael Kuhl | State: CA | Sampling Point: WD-5
Investigator(s): Jeremy Waites, Summer Abel | Section, Township, Range: Section 16, T12N, R14E
Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): none | Slope (%): 1
Subregion (LRR): D | Latitude: 38.879061 | Longitude: -120.4135 | Datum: WGS84
Soil Map Unit Name: Pilliken coarse sandy loam, 5 to 30 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	Is the Sampled Area within a Wetland? Yes X No ___
Hydric Soil Present?	X No X	
Wetland Hydrology Present?	Yes ___ No ___	
Remarks:		

VEGETATION - Use scientific names of plants

Tree Stratum (Plot size: ___)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus jeffreyii*	10		-
2. *Abies concolor*	5		-
3.			
4.			
	15	Total Cover	
Sapling/Shrub Stratum (Plot size: ___)			
1.			-
2.			
3.			
4.			
5.			
	0	Total Cover	
Herb Stratum (Plot size: ___)			
1. *Rumex acetoselle*	5		FACU
2. *Bromus tectorum*	5		-
3. *Hypericum perforatum*	5		FACU
4. *Carex fracta*	30	X	FAC
5. *Leptosiphon ciliatus*	1		-
6.			
7. *Achillea millefolium*	5		FACU
8.			
	51	Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	Total Cover	

% Bare Ground in Herb Stratum 15 | % Cover of Biotic Crust ___

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	30	x 3 =	90
FACU species	15	x 4 =	60
UPL species		x 5 =	0
Column Totals:	45 (A)		150 (B)

Prevalence Index = B/A = 3.33

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

Hydrophytic Vegetation Present?
Yes X No ___

Western Mountains, Valleys and Coast Region

US Army Corp of Engineers

SOIL Sampling Point: WD-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	LOC[2]	Texture	Remarks
8	10YR 4/4	100					sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils[3]:

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Depleted Below Dark Surface (A11
- ____ Thick Dark Surface (A12)
- ____ Depleted Below Dark Surface (A11
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Mineral(F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____
- ____ 2 cm Muck (A10) (LRR B)
- ____ Very Shallow Dark Surface
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface
- ___ Algal Mat or Crust
- ___ Iron Deposits
- ___ Salt Crust (B11)
- ___ Water Stained Leaves
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants
- ___ Other (Explain in Remarks)
- ___

Secondary Indicators (2 or more required)

- ___ Water Stained Leaves
- ___ Raised Ant Mounds
- ___ Frost Heave Hummocks
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Geomorphic Position

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches) _____
Water Table Present? Yes ___ No X Depth (inches) _____
Saturation Present? Yes ___ No X Depth (inches) _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Western Mountains, Valleys and Coast Region

US Army Corp of Engineers

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Union Valley | City/County: El Dorado | Sampling Date: 6/20/2024
Applicant/Owner: Michael Kuhl | State: CA | Sampling Point: WD-1
Investigator(s): Jeremy Waites, Summer Abel | Section, Township, Range: Section 16, T12N, R14E
Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): none | Slope (%): 1
Subregion (LRR): D | Latitude: 38.879483 | Longitude: -120.4142 | Datum: WGS84
Soil Map Unit Name: Pilliken coarse sandy loam, 5 to 30 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	Is the Sampled Area within a Wetland? Yes ___ No X
Hydric Soil Present?	Yes ___ No X	
Wetland Hydrology Present?	Yes ___ No X	

Remarks:

VEGETATION - Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ___)			
1. *Pinus jeffreyii*	25		-
2.			
3.			
4.			
	25	Total Cover	
Sapling/Shrub Stratum (Plot size: ___)			
1.			-
2.			
3.			
4.			
5.			
	0	Total Cover	
Herb Stratum (Plot size: ___)			
1. *Carex fracta*	5		FAC
2. *Stipa occidentalis*	15	Y	-
3. *Rumex acetosella*	15		FACU
4. *Madia elegans*	5		-
5. *Leptosiphon ciliatus*	1		-
6. *Lupinus fulcratus*	1		-
7.			
8.			
	42	Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	Total Cover	

% Bare Ground in Herb Stratum 50 | % Cover of Biotic Crust ___

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	15	x 4 =	60
UPL species		x 5 =	0
Column Totals:	20 (A)		75 (B)

Prevalence Index = B/A = 3.75

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

Hydrophytic Vegetation Present?
Yes ___ No X

US Army Corp of Engineers
Western Mountains, Valleys and Coast Region

SOIL Sampling Point: WD-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	LOC[2]	Texture	Remarks
12	10 YR 3/2	100					sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils[3]:

___ Histosol (A1)	___ Sandy Redox (S5)	___
___ Histic Epipedon (A2)	___ Stripped Matrix (S6)	___ 2 cm Muck (A10) (LRR B)
___ Black Histic (A3)	___ Loamy Mucky Mineral(F1)	___ Very Shallow Dark Surface
___ Hydrogen Sulfide (A4)	___ Loamy Gleyed Matrix (F2)	___ Red Parent Material (TF2)
___ Depleted Below Dark Surface (A11	___ Depleted Matrix (F3)	___ Other (Explain in Remarks)
___ Thick Dark Surface (A12)	___ Redox Dark Surface (F6)	
___ Depleted Below Dark Surface (A11)	___ Depleted Dark Surface (F7)	[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
___ Sandy Mucky Mineral (S1)	___ Redox Depressions (F8)	
___ Sandy Gleyed Matrix (S4)		

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
___ Surface Water (A1)	___ Salt Crust (B11)	___ Water Stained Leaves
___ High Water Table (A2)	___ Water Stained Leaves	___ Raised Ant Mounds
___ Saturation (A3)	___ Aquatic Invertebrates (B13)	___ Frost Heave Hummocks
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Drainage Patterns (B10)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres along Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Surface Soil Cracks (B6)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C2)
___ Inundation Visible on Aerial Imagery (B7)	___ Stunted or Stressed Plants	___ Shallow Aquitard (D3)
___ Sparsley Vegetated Concave Surface	___ Other (Explain in Remarks)	___ FAC-Neutral Test (D5)
___ Algal Mat or Crust	___	___ Geomorphic Position
___ Iron Deposits		

Field Observations:
Surface Water Present? Yes ___ No X Depth (inches) _____
Water Table Present? Yes ___ No X Depth (inches) _____
Saturation Present? Yes ___ No X Depth (inches) _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Western Mountains, Valleys and Coast Region

US Army Corp of Engineers

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Union Valley | City/County: El Dorado | Sampling Date: 6/20/2024
Applicant/Owner: Michael Kuhl | State: CA | Sampling Point: WD-1
Investigator(s): Jeremy Waites, Summer Abel | Section, Township, Range: Section 16, T12N, R14E
Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): none | Slope (%): 1
Subregion (LRR): D | Latitude: 38.879483 | Longitude: -120.4142 | Datum: WGS84
Soil Map Unit Name: Pilliken coarse sandy loam, 5 to 30 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	**Is the Sampled Area within a Wetland?** Yes ___ No X
Hydric Soil Present?	Yes ___ No X	
Wetland Hydrology Present?	Yes ___ No X	

Remarks:

VEGETATION - Use scientific names of plants

Tree Stratum (Plot size: ___)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Abies concolor*	50	X	-
2. *Calocedrus decurrens*	10		-
3.			
4.			
	60	Total Cover	
Sapling/Shrub Stratum (Plot size: ___)			
1.			-
2.			
3.			
4.			
5.			
	0	Total Cover	
Herb Stratum (Plot size: ___)			
1. *Viola adunca*	1		FAC
2. *Adenocaulon bicolor*	5		-
3. *Fragaria virginiana*	5		FACU
4. *Sphagnum ssp.*	25		-
5.	1		
6.			
7.			
8.			
	37	Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	Total Cover	

% Bare Ground in Herb Stratum: 50 | % Cover of Biotic Crust: ___

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species 0	x 1 =	0
FACW species 0	x 2 =	0
FAC species 1	x 3 =	3
FACU species 5	x 4 =	20
UPL species	x 5 =	0
Column Totals: 6 (A)		23 (B)

Prevalence Index = B/A = 3.83

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

Hydrophytic Vegetation Present?
Yes ___ No X

Western Mountains, Valleys and Coast Region

US Army Corp of Engineers

SOIL Sampling Point: WD-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type	LOC[2]	Texture	Remarks
12	2.5 YR 3/2	100					sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils[3]:

___ Histosol (A1)	___ Sandy Redox (S5)	___
___ Histic Epipedon (A2)	___ Stripped Matrix (S6)	___ 2 cm Muck (A10) (LRR B)
___ Black Histic (A3)	___ Loamy Mucky Mineral(F1)	___ Very Shallow Dark Surface
___ Hydrogen Sulfide (A4)	___ Loamy Gleyed Matrix (F2)	___ Red Parent Material (TF2)
___ Depleted Below Dark Surface (A11	___ Depleted Matrix (F3)	___ Other (Explain in Remarks)
___ Thick Dark Surface (A12)	___ Redox Dark Surface (F6)	
___ Depleted Below Dark Surface (A11	___ Depleted Dark Surface (F7)	[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
___ Sandy Mucky Mineral (S1)	___ Redox Depressions (F8)	
___ Sandy Gleyed Matrix (S4)		

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
___ Surface Water (A1)	___ Salt Crust (B11)	___ Water Stained Leaves
___ High Water Table (A2)	___ Water Stained Leaves	___ Raised Ant Mounds
___ Saturation (A3)	___ Aquatic Invertebrates (B13)	___ Frost Heave Hummocks
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Drainage Patterns (B10)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres along Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Surface Soil Cracks (B6)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C2)
___ Inundation Visible on Aerial Imagery (B7)	___ Stunted or Stressed Plants	___ Shallow Aquitard (D3)
___ Sparsely Vegetated Concave Surface	___ Other (Explain in Remarks)	___ FAC-Neutral Test (D5)
___ Algal Mat or Crust	___	___ Geomorphic Position
___ Iron Deposits		

Field Observations:
Surface Water Present? Yes ___ No X Depth (inches) _____
Water Table Present? Yes ___ No X Depth (inches) _____
Saturation Present? Yes ___ No X Depth (inches) _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Western Mountains, Valleys and Coast Region

US Army Corp of Engineers

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Union Valley | City/County: El Dorado | Sampling Date: 6/20/2024
Applicant/Owner: Michael Kuhl | State: CA | Sampling Point: WD-8
Investigator(s): Jeremy Wakes, Summer Abel | Section, Township, Range: Section 16, T12N, R14E
Landform (hillslope, terrace, etc.): meadow | Local relief (concave, convex, none): none | Slope (%): 1
Subregion (LRR): D | Latitude: 38.879483 | Longitude: -120.4142 | Datum: WGS84
Soil Map Unit Name: Pilliken coarse sandy loam, 5 to 30 percent slopes | NWI classification: Freshwater emergent
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	Is the Sampled Area within a Wetland? Yes X No ___
Hydric Soil Present?	Yes X No ___	
Wetland Hydrology Present?	Yes X No ___	

Remarks:

VEGETATION - Use scientific names of plants

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ___)			
1.			
2.			
3.			
4.			
	0	Total Cover	
Sapling/Shrub Stratum (Plot size: ___)			
1. *Alnus incana ssp. tenuifolia*	5		FACW
2.			
3.			
4.			
5.			
	5	Total Cover	
Herb Stratum (Plot size: ___)			
1. *Carex utriculata*	50	Y	OBL
2. *Scirpus microcarpus*	10		OBL
3. *Veratrum californicum*	5		FAC
4. *Erythranthe guttata*	1		OBL
5. *Epilobium angustifolium*	3		-
6. *Camassia leichtlinii ssp. suksdorfii*	1		FACW
7.			
8.			
	70	Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	Total Cover	

% Bare Ground in Herb Stratum: 0 | % Cover of Biotic Crust: ___

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	61	x 1 =	61
FACW species	6	x 2 =	12
FAC species	5	x 3 =	15
FACU species	32	x 4 =	128
UPL species		x 5 =	0
Column Totals:	104 (A)		216 (B)

Prevalence Index = B/A = 2.08

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index is ≤3.0[1]
___ Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

Hydrophytic Vegetation Present?
Yes X No ___

Western Mountains, Valleys and Coast Region

US Army Corp of Engineers

SOIL Sampling Point: WD-8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features LOC[2]	Texture	Remarks
8	7.5 YR 2.5/1	100					Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils[3]:

	Histosol (A1)		Sandy Redox (S5)		
	Histic Epipedon (A2)	X	Stripped Matrix (S6)		2 cm Muck (A10) (LRR B)
X	Black Histic (A3)		Loamy Mucky Mineral(F1)		Very Shallow Dark Surface
	Hydrogen Sulfide (A4)		Loamy Gleyed Matrix (F2)		Red Parent Material (TF2)
	Depleted Below Dark Surface (A11		Depleted Matrix (F3)		Other (Explain in Remarks)
	Thick Dark Surface (A12)		Redox Dark Surface (F6)		
	Depleted Below Dark Surface (A11		Depleted Dark Surface (F7)		
	Sandy Mucky Mineral (S1)		Redox Depressions (F8)		
	Sandy Gleyed Matrix (S4)				

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type:
Depth (inches):

Hydric Soil Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Surface Water (A1)	Salt Crust (B11)	Water Stained Leaves
High Water Table (A2)	Water Stained Leaves	Raised Ant Mounds
Saturation (A3)	Aquatic Invertebrates (B13)	Frost Heave Hummocks
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Dry-Season Water Table (C2)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Surface Soil Cracks (B6)	Recent Iron Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C2)
Inundation Visible on Aerial Imagery (B7)	Stunted or Stressed Plants	Shallow Aquitard (D3)
Sparsely Vegetated Concave Surface	Other (Explain in Remarks)	FAC-Neutral Test (D5)
Algal Mat or Crust		Geomorphic Position
Iron Deposits		

Field Observations:
Surface Water Present? Yes No X Depth (inches)
Water Table Present? Yes No X Depth (inches)
Saturation Present? Yes X No Depth (inches)
(includes capillary fringe)

Wetland Hydrology Present? Yes X No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Western Mountains, Valleys and Coast Region

US Army Corp of Engineers

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Union Valley | City/County: El Dorado | Sampling Date: 6/20/2024
Applicant/Owner: Michael Kuhl | State: CA | Sampling Point: WD-9
Investigator(s): Jeremy Waites, Summer Abel | Section, Township, Range: Section 16, T12N, R14E
Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): none | Slope (%): 1
Subregion (LRR): D | Latitude: 38.879483 | Longitude: -120.4142 | Datum: WGS84
Soil Map Unit Name: Pilliken coarse sandy loam, 5 to 30 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	Is the Sampled Area within a Wetland? Yes X No ___
Hydric Soil Present?	Yes X No ___	
Wetland Hydrology Present?	Yes X No ___	

Remarks:

VEGETATION - Use scientific names of plants

Tree Stratum (Plot size: ___)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus jeffreyii*	5		-
2.			
3.			
4.			
	5	Total Cover	
Sapling/Shrub Stratum (Plot size: ___)			
1. *Rhododendron occidentale*			FAC
2.			
3.			
4.			
5.			
	0	Total Cover	
Herb Stratum (Plot size: ___)			
1. *Bistorta bistortoides*	10		FACW
2. *Scirpus microcarpus*	20	Y	OBL
3. *Veratrum californicum*	2		FAC
4. *Erythranthe guttata*	3		OBL
5. *Poa pratensis*	40	Y	FAC
6. *Camassia leichtlinii ssp. suksdorfii*	3		FACW
7.			
8.			
	78	Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	Total Cover	

% Bare Ground in Herb Stratum 5 | % Cover of Biotic Crust ___

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	23	x 1 =	23
FACW species	13	x 2 =	26
FAC species	42	x 3 =	126
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	78 (A)		175 (B)

Prevalence Index = B/A = 2.24

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index is ≤3.0[1]
___ Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

Hydrophytic Vegetation Present?
Yes X No ___

Western Mountains, Valleys and Coast Region

US Army Corp of Engineers

SOIL Sampling Point: WD-9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	LOC[2]	Texture	Remarks
12	7.5 YR 3/2	100					Mucky loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) **Indicators for Problematic Hydric Soils[3]:**

X Histosol (A1)	Sandy Redox (S5)	2 cm Muck (A10) (LRR B)
Histic Epipedon (A2)	Stripped Matrix (S6)	Very Shallow Dark Surface
Black Histic (A3)	X Loamy Mucky Mineral(F1)	Red Parent Material (TF2)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)
Depleted Below Dark Surface (A11	Depleted Matrix (F3)	
Thick Dark Surface (A12)	Redox Dark Surface (F6)	
Depleted Below Dark Surface (A11	Depleted Dark Surface (F7)	
Sandy Mucky Mineral (S1)	Redox Depressions (F8)	
Sandy Gleyed Matrix (S4)		

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type:
Depth (inches):

Hydric Soil Present? Yes X No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
X Surface Water (A1)	Salt Crust (B11)	Water Stained Leaves
X High Water Table (A2)	Water Stained Leaves	Raised Ant Mounds
X Saturation (A3)	Aquatic Invertebrates (B13)	Frost Heave Hummocks
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Drainage Patterns (B10)
Sediment Deposits (B2)	Oxidized Rhizospheres along Living Roots (C3)	Dry-Season Water Table (C2)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Surface Soil Cracks (B6)	Recent Iron Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C2)
Inundation Visible on Aerial Imagery (B7)	Stunted or Stressed Plants	Shallow Aquitard (D3)
Sparsely Vegetated Concave Surface	Other (Explain in Remarks)	FAC-Neutral Test (D5)
Algal Mat or Crust		Geomorphic Position
Iron Deposits		

Field Observations:
Surface Water Present? Yes X No Depth (inches)
Water Table Present? Yes X No Depth (inches) 2
Saturation Present? Yes X No Depth (inches)
(includes capillary fringe)

Wetland Hydrology Present? Yes X No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Western Mountains, Valleys and Coast Region

US Army Corp of Engineers

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Union Valley | City/County: El Dorado | Sampling Date: 6/20/2024
Applicant/Owner: Michael Kuhl | State: CA | Sampling Point: WD-10
Investigator(s): Jeremy Waites, Summer Abel | Section, Township, Range: Section 16, T12N, R14E
Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): none | Slope (%): 1
Subregion (LRR): D | Latitude: 38.879483 | Longitude: -120.4142 | Datum: WGS84
Soil Map Unit Name: Pilliken coarse sandy loam, 5 to 30 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	Is the Sampled Area within a Wetland? Yes ___ No X
Hydric Soil Present?	Yes ___ No X	
Wetland Hydrology Present?	Yes ___ No X	

Remarks:

VEGETATION - Use scientific names of plants

Tree Stratum (Plot size: ___)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Celocedrus decurrens*	10		-
2. *Pinus jeffreyii*	40		-
3. *Pinus ponderosa*	60	X	FACU
4. *Abies concolor*	2		-
	112	Total Cover	
Sapling/Shrub Stratum (Plot size: ___)			
1. *Rhododendron occidentale*	3		FAC
2.			
3.			
4.			
5.			
	3	Total Cover	
Herb Stratum (Plot size: ___)			
1. *Taraxacum officinale*	2		FACU
2. *Chrysolepis sempervirens*	5		-
3. *Equisetum arvense*	2		FAC
4. *Hypericum perforatum*	5		FACU
5. *Collomia grandiflora*	3		-
6.			
7.			
8.			
	17	Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	Total Cover	

% Bare Ground in Herb Stratum 70 | % Cover of Biotic Crust ___

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species 0	x 1 =	0
FACW species 0	x 2 =	0
FAC species 5	x 3 =	15
FACU species 67	x 4 =	268
UPL species ___	x 5 =	0
Column Totals: 72 (A)		283 (B)

Prevalence Index = B/A = 3.93

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

Hydrophytic Vegetation Present?
Yes ___ No X

US Army Corp of Engineers

Western Mountains, Valleys and Coast Region

SOIL Sampling Point: WD-10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	LOC[2]	Texture	Remarks
12	5 YR 3/3	100					sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) **Indicators for Problematic Hydric Soils[3]:**

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Depleted Below Dark Surface (A11
- ____ Thick Dark Surface (A12)
- ____ Depleted Below Dark Surface (A11
- ____ Sandy Mucky Mineral (S1)
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Loamy Mucky Mineral(F1)
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ 2 cm Muck (A10) (LRR B)
- ____ Very Shallow Dark Surface
- ____ Red Parent Material (TF2)
- ____ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface
- ___ Algal Mat or Crust
- ___ Iron Deposits
- ___ Salt Crust (B11)
- ___ Water Stained Leaves
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants
- ___ Other (Explain in Remarks)
- ___

Secondary Indicators (2 or more required)

- ___ Water Stained Leaves
- ___ Raised Ant Mounds
- ___ Frost Heave Hummocks
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Geomorphic Position

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches) _____
Water Table Present? Yes ___ No X Depth (inches) _____
Saturation Present? Yes ___ No X Depth (inches) _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Western Mountains, Valleys and Coast Region

US Army Corp of Engineers

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Union Valley | City/County: El Dorado | Sampling Date: 6/20/2024
Applicant/Owner: Michael Kuhl | State: CA | Sampling Point: WD-11
Investigator(s): Jeremy Waites, Summer Abel | Section, Township, Range: Section 16, T12N, R14E
Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): none | Slope (%): 5
Subregion (LRR): D | Latitude: 38.879483 | Longitude: -120.4142 | Datum: WGS84
Soil Map Unit Name: Pilliken coarse sandy loam, 5 to 30 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	**Is the Sampled Area within a Wetland?** Yes ___ No X
Hydric Soil Present?	Yes ___ No X	
Wetland Hydrology Present?	Yes ___ No X	
Remarks:		

VEGETATION - Use scientific names of plants

Tree Stratum (Plot size: ___)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Calocedrus decurrens*	40		-
2.			
3. *Pinus ponderosa*	40	X	FACU
4. *Abies concolor*	10		-
	90	Total Cover	
Sapling/Shrub Stratum (Plot size: ___)			
1.			-
2.			
3.			
4.			
5.			
	0	Total Cover	
Herb Stratum (Plot size: ___)			
1. *Adenocaulon bicolor*	5		-
2. *Ribes roezlii var. roezlii*	1		-
3. *Equisetum arvense*	20		FAC
4. *Goodyera oblongifolia*	1		FACU
5. *Galium triflorum*	1		FACU
6.			
7.			
8.			
	28	Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	Total Cover	

% Bare Ground in Herb Stratum 60 | % Cover of Biotic Crust ___

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	40	x 4 =	160
UPL species		x 5 =	0
Column Totals:	60 (A)		220 (B)

Prevalence Index = B/A = 3.67

Hydrophytic Vegetation Indicators:
___ Dominance Test is >50%
___ Prevalence Index is ≤3.0[1]
___ Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

Hydrophytic Vegetation Present?
Yes ___ No X

Western Mountains, Valleys and Coast Region

US Army Corp of Engineers

SOIL Sampling Point: WD-11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	LOC[2]	Texture	Remarks
12	5 YR 3/3	100					sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils[3]:

___ Histosol (A1)	___ Sandy Redox (S5)	___
___ Histic Epipedon (A2)	___ Stripped Matrix (S6)	___ 2 cm Muck (A10) (LRR B)
___ Black Histic (A3)	___ Loamy Mucky Mineral(F1)	___ Very Shallow Dark Surface
___ Hydrogen Sulfide (A4)	___ Loamy Gleyed Matrix (F2)	___ Red Parent Material (TF2)
___ Depleted Below Dark Surface (A11	___ Depleted Matrix (F3)	___ Other (Explain in Remarks)
___ Thick Dark Surface (A12)	___ Redox Dark Surface (F6)	
___ Depleted Below Dark Surface (A11	___ Depleted Dark Surface (F7)	[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
___ Sandy Mucky Mineral (S1)	___ Redox Depressions (F8)	
___ Sandy Gleyed Matrix (S4)	___	

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ___ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
___ Surface Water (A1)	___ Salt Crust (B11)	___ Water Stained Leaves
___ High Water Table (A2)	___ Water Stained Leaves	___ Raised Ant Mounds
___ Saturation (A3)	___ Aquatic Invertebrates (B13)	___ Frost Heave Hummocks
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Drainage Patterns (B10)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres along Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Surface Soil Cracks (B6)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C2)
___ Inundation Visible on Aerial Imagery (B7)	___ Stunted or Stressed Plants	___ Shallow Aquitard (D3)
___ Sparsely Vegetated Concave Surface	___ Other (Explain in Remarks)	___ FAC-Neutral Test (D5)
___ Algal Mat or Crust	___	___ Geomorphic Position
___ Iron Deposits		

Field Observations:
Surface Water Present? Yes ___ No X Depth (inches) _____
Water Table Present? Yes ___ No X Depth (inches) _____
Saturation Present? Yes ___ No X Depth (inches) _____
(includes capillary fringe)

Wetland Hydrology Present? Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Western Mountains, Valleys and Coast Region

US Army Corp of Engineers

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys and Coast Region

Project/Site: Union Valley | City/County: El Dorado | Sampling Date: 6/20/2024
Applicant/Owner: Michael Kuhl | State: CA | Sampling Point: WD-12
Investigator(s): Jeremy Waites, Summer Abel | Section, Township, Range: Section 16, T12N, R14E
Landform (hillslope, terrace, etc.): hillslope | Local relief (concave, convex, none): none | Slope (%): 0
Subregion (LRR): D | Latitude: 38.8998 | Longitude: -120.4129 | Datum: WGS84
Soil Map Unit Name: Pilliken coarse sandy loam, 5 to 30 percent slopes | NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)
Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___
Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ___	Is the Sampled Area within a Wetland? Yes X No ___
Hydric Soil Present?	Yes X No ___	
Wetland Hydrology Present?	Yes X No ___	
Remarks:		

VEGETATION - Use scientific names of plants

Tree Stratum (Plot size: ___)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	Total Cover	
Sapling/Shrub Stratum (Plot size: ___)			
1. *Alnus incana ssp. tenuifolia*	25		FACW
2.			
3.			
4.			
5.			
	25	Total Cover	
Herb Stratum (Plot size: ___)			
1. *Equisetum arvense*	50	X	FAC
2. *Artemisia douglasiana*	5		FACW
3. *Erythranthe guttata*	5		OBL
4. *Scirpus microcarpus*	5		OBL
5. *Pteridium aquilinum ver. pubescens*	1		FACU
6. *Poa pratensis*	20		FAC
7. *Senecio triangularis*	10		FACW
8.			
	96	Total Cover	
Woody Vine Stratum (Plot size: ___)			
1.			
2.			
	0	Total Cover	

% Bare Ground in Herb Stratum 0 | % Cover of Biotic Crust ___

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	40	x 2 =	80
FAC species	70	x 3 =	210
FACU species	1	x 4 =	4
UPL species		x 5 =	0
Column Totals:	121 (A)		304 (B)

Prevalence Index = B/A = 2.51

Hydrophytic Vegetation Indicators:
X Dominance Test is >50%
X Prevalence Index is ≤3.0[1]
___ Morphological Adaptations (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

Hydrophytic Vegetation Present?
Yes X No ___

Western Mountains, Valleys and Coast Region

US Army Corp of Engineers

SOIL Sampling Point: WD-12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	LOC[2]	Texture	Remarks
8	5 YR 3/2	100					Loamy muck	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Indicators for Problematic Hydric Soils[3]:

___ Histosol (A1)	X Sandy Redox (S5)	___
___ Histic Epipedon (A2)	___ Stripped Matrix (S6)	___ 2 cm Muck (A10) (LRR B)
___ Black Histic (A3)	___ Loamy Mucky Mineral(F1)	___ Very Shallow Dark Surface
___ Hydrogen Sulfide (A4)	___ Loamy Gleyed Matrix (F2)	___ Red Parent Material (TF2)
___ Depleted Below Dark Surface (A11	___ Depleted Matrix (F3)	___ Other (Explain in Remarks)
___ Thick Dark Surface (A12)	___ Redox Dark Surface (F6)	
___ Depleted Below Dark Surface (A11	___ Depleted Dark Surface (F7)	[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.
X Sandy Mucky Mineral (S1)	X Redox Depressions (F8)	
___ Sandy Gleyed Matrix (S4)	___	

Restrictive Layer (if present):
Type: ___
Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)		Secondary Indicators (2 or more required)
___ Surface Water (A1)	___ Salt Crust (B11)	___ Water Stained Leaves
___ High Water Table (A2)	___ Water Stained Leaves	___ Raised Ant Mounds
X Saturation (A3)	___ Aquatic Invertebrates (B13)	___ Frost Heave Hummocks
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Drainage Patterns (B10)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres along Living Roots (C3)	___ Dry-Season Water Table (C2)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Crayfish Burrows (C8)
___ Surface Soil Cracks (B6)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Saturation Visible on Aerial Imagery (C2)
___ Inundation Visible on Aerial Imagery (B7)	___ Stunted or Stressed Plants	___ Shallow Aquitard (D3)
___ Sparsely Vegetated Concave Surface	___ Other (Explain in Remarks)	___ FAC-Neutral Test (D5)
___ Algal Mat or Crust	___	___ Geomorphic Position
___ Iron Deposits		

Field Observations:
Surface Water Present? Yes ___ No X Depth (inches) ___
Water Table Present? Yes ___ No X Depth (inches) ___
Saturation Present? Yes X No ___ Depth (inches) ___
(includes capillary fringe)

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Western Mountains, Valleys and Coast Region

US Army Corp of Engineers

Appendix B

Photographs from Data Collection


WD1
06/20/24 10:32


WD2
06/20/24 10:42


WD3
06/20/24 11:14


WD4
06/20/24 11:15


WD5
06/20/24 11:15


WD6
06/20/24 11:25


WD7
06/20/24 13:03


WD8
06/20/24 13:10


WD9
06/20/24 13:18


WD10
06/20/24 13:35


WD11
06/20/24 14:06


WD12
06/20/24 14:07